THE DEVELOPMENT OF NEW SUBSCALES ON THE MMPI AND CPI FOR MALE BATTERERS

By

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THE DEVELOPMENT OF NEW SUBSCALES ON THE MMPI AND CPI FOR MALE BATTERERS

By

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This study investigated the empirical development of subscales on the Minnesota Multiphasic Personality Inventory (MMPI) and on the California Psychological Inventory (CPI) that would discriminate male batterers from nonbatterers.

Fifty-seven court referred male batterers and thirty-five volunteer male nonbatterers took the 400 item MMPI and the 480 item CPI, as well as a demographic data form. Two types of analyses were used to statistically select items for inclusion into the two pilot subscales. The results indicated that the chi square analysis selected 26 MMPI items and 9 CPI items, while the discriminant analysis gave 78 MMPI items and 33 CPI items. The items from the discriminant analysis were subjected to a statistical cross validation that resulted in 100% correct classification of batterers and nonbatterers for each personality inventory. The items selected by the chi-square analysis were not cross validated because the original sample was not large enough to split for cross validation.

The results are discussed in terms of methodological constraints imposed by sample size and matching on relevant variables. The results indicated that more items on the MMPI than the CPI were selected for inclusion in the model. In addition, more batterers than nonbatterers selected pathological items on the MMPI and CPI. Therefore, it appears that the MMPI with its pathology foundations and greater number of significant items may be a more useful instrument for use with batterers.

The study concludes that items derived from the discriminant analysis may provide the basis for subscales on the MMPI and CPI useful in identifying and classifying court referred male batterers. However, the MMPI appears to be a more fruitful instrument for further research in this area. Further research will be needed to cross validate the items selected from the chi square analysis.

CHAPTER I
INTRODUCTION

> My father was a brutal man. He used to do things like sit at the dinner table with a broom close to him, and if you hadn't done what you were supposed to that day you would get the broom handle across the face. Then, what was worse he'd tell Mother to have us do things and she would forget. Father would come home and want to know why it hadn't been done. We'd say we didn't know it was supposed to be done, and then he'd turn to Mother and say, "Did you tell them?" and she'd say, "Of course I told them!" Then he'd beat us for not doing it and also for calling our mother a liar. She really betrayed me. She set me up to be brutalized by him and she didn't protect me. Later she started stealing money from me when I was working because she was afraid Father would get mad at her for not staying within her budget. She was like a helpless kid. I was more a parent to her than she was to me. (S. Forward & J. Torres, pp.107-108)

This is an excerpt from Susan Forward's (1986) popular book, Men Who Hate Women and The Women Who Love Them. These statements are made by Charlie, a batterer, one of the clients who Dr. Forward saw in therapy. Dr. Forward states that

> . . . he (Charlie) received the message that women are treacherous, helpless, and not to be trusted. In adulthood, Charlie found himself drawn to helpless waiflike women who were very much like his mother. Charlie's deep rage and resentment toward his mother, coupled with his neediness, were transferred onto the women with whom he became involved. (p.108)

From case studies such as "Charlie," Forward postulates that abusive men are "women haters" with a great need to control their partners. Until recently, Forward's method of research, case studies, exemplifies the method most used by clinicians and researchers to extract personality characteristics of batterers. Although case studies make interesting reading, they are not considered an adequate method for research because case studies do not control for extraneous variables which may confound the results. This lack of sound empirical research methodology in the batterer literature is due in large part to the social blindness of society which for years refused to see the problems of battering. However, with the rise of the women's movement and the subsequent abundance of shelters for abused women, there has been an increased interest in the personality of the batterer. In recent years there has been a proliferation of studies investigating the personality of batterers using better research methods. However, none of these studies center on the assessment of the batterer. Most researchers are concerned with profiles or traits of batterers and not with the development of an instrument to be used for the assessment of batterers. In addition, most published studies that include assessment as part of their design use instruments that are, at best, poorly constructed. Only one study by Bernard and Bernard (1984) has been published that uses a fairly reliable and valid assessment instrument--the Minnesota Multiphasic Personality Inventory (MMPI). However, this study does not use control groups and therefore, the results of the study are severely limited.

Need for the Study

> Violence is here,
> In the world of the the sane,
> And violence is a symptom,
> I hear it in the headlong weeping of men who have failed.
> I see it in the terrible dreams of boys, whose adolescence repeats all history.
> (Jacob Bronowski, 1979, p. 133)

A 1976 survey reported that 1.8 million American women are beaten each year. The National Crime Reports (1982) reported that from 1973 to 1981 56.8% of domestic violence incidents reported to police were between spouses or ex-spouses. The majority of the perpetrators of partner abuse are men. The same National Crime Survey found that men committed 95% of all assaults on spouses. According to a 1982 FBI report, 30% of female homicide victims are killed by their spouses. New Jersey and Minnesota are the only two states that separate spouse battery from general battery offenses in their reporting of crime statistics and thus give a better estimate of the occurrence. New Jersey reported 26,288 cases of spouse abuse in 1984. This is a 43% increase in one year. In Minnesota, between 1978 and 1983, the Department of Corrections received 24,949 reports of partner battering. However, research estimates indicate that these statistics are gross underestimates. In Minnesota, researchers believe that there were actually 187,115 incidents of women battering but most go unreported. Not only are there overwhelming statistics on the widespread severity of the problem of partner abuse but it appears that what is reported is only the tip of the iceberg.

Partner abuse is not confined to a particular socio-economic level, age group, occupation, or religion. For example, when wife abuse calls were compared in Norwalk, Connecticut, and Harlem, New York, the results revealed that both areas produced about the same number of calls. Both cities had similar size populations but Norwalk's population included a wide socioeconomic range while Harlem had a predominantly lower socioeconomic population. Gelles (1974) found similar results in his study of domestic violence. However, Gelles did find that most conjugal violence occurs when the partner's educational level is low, when the partners have low to medium status jobs, and when the partner's income was at the low range. Therefore, Gelles postulates that although partner abuse occurs at all demographic levels, it is most prevalent in that social strata that has the greatest financial stress.

It does not require much argument to present the enormous scope of the problem of partner abuse. The statistics are staggering. However, it is only recently that researchers have focused on battering as a problem.

The recognition of partner abuse as a serious problem began with the feminist movement of the 1970s. Formerly, domestic violence was an issue that was considered best handled within the family and rarely entered the judicial sphere. In addition, there was a pervasive attitude in society that it was normal for a husband to slap his wife once in a while. Consequently, when more serious physical aggression occurred, the court, by tradition, considered assaults against spouses a lesser crime than assaults against nonspouses. The message delivered to society was that violence inside the home was different than outside the home.

When the violence problem was brought to the attention of the family physician, or a counselor, the prevailing attitude was that the woman must have caused the attack and, if she did not like the situation, she could leave her home. Professional helpers minimized the problem and put the responsibility on the women. In reality, she had sparse legal, societal, and economic resources to protect herself. However, in 1971, Erin Pizzey, an English feminist, opened the first shelter for battered women. Within a few years a network of shelters for battered women spread throughout England.

In 1974 the first shelter was opened in the United States. In the same year Pizzey brought public notice to the problem with the publication of her book Scream Quietly or the Neighbors Will Hear. A year after the first shelter was opened Gelles(1974) published the first important research study, The Violent Home: A Study of Physical Aggression Between Husbands and Wives. Up until that time O'Brien (1971) reports that between 1939 and 1969 the Journal of Marriage and Family had not one article with violence in the title. Gelles' hallmark study was an attempt to describe systematically the social factors associated with conjugal violence. Until the 1980s most psychological research on batterers was limited to case studies and interviews. More recently, partner abuse has moved from clinical description to controlled empirical studies. Although batterer treatment programs are springing up over the country, these programs are based on clinical descriptions of the batterer rather than properly designed studies.

In addition to the problem of poor research methodology, identification of batterers has been a problem because of the need for assertive action by the abused partner and the lack of an accurately discriminating assessment instrument. Such an instrument can only be developed when based on proper research methodology (appropriate statistical methods and adequate controls).

An assessment instrument that would identify potential and active batterers would be a step forward in reducing the problem of partner abuse. Assessing the problem is the first step in solving the problem.

The function of psychological assessment is to measure differences between individuals. More specifically, assessments can be used to identify and classify individuals. Personality assessment instruments have been in use for classification purposes since the 1800s. Anastasi (1976) reports that during World War I Woodworth developed an instrument that identified seriously neurotic males unfit for military service. He devised The Personal Data Sheet, the prototype of today's self-report questionnaire. More recently, the MMPI, the most widely known self-report personality inventory, has been used extensively to identify and classify specific populations. These populations range from criminal offenders (Megargee & Bohn, 1979) to alcoholics (MacAndrews, 1963).

The function of identification and classification varies with the population and specific problem at hand. With batterers, clinical assessment has become important as social interest has increased and treatment programs for batterers have developed. Sonkin, Marin, & Walker (1985) believe there is so little research conducted on male batterers that it is difficult to decide which assessment tools are most effective. An assessment tool that would accurately differentiate batterers from nonbatterers would be useful in many clinical settings and could be part of an early intervention process. Additionally, an assessment tool that would add to the research base in the field of battering would help in the understanding and treatment of the batterer.

Therefore, the development of a specific subscale on the MMPI appears to be a logical solution to the problem of assessing batterers and would add specificity to classifying batterers.

In summary personality assessment has proven helpful in differentiating populations in many clinical and research settings. With this in mind, this study is designed to develop a personality assessment instrument using the MMPI that would differentiate batterers from nonbatterers.

Purpose and Rationale for the Study

The research performed in this study is empirical in nature and makes no attempt at theoretical causality. The purpose of this study is to determine if there is a subset of items on a standard personality assessment instrument such as the Minnesota Multiphasic Personality Inventory (MMPI) and on the California Psychological Inventory (CPI) that would discriminate between male batterers and a control group of nonbatterers.

In formulating the rationale for the this study there were three considerations that needed to be addressed. These considerations were concerned with using an instrument that 1) was appropriate for the problem, 2) would be used with ease, and 3) would be clinically relevant. Therefore, it was thought important to use both the MMPI and the CPI because it was unclear in the literature whether or not male batterers have pathological personality traits. Both the MMPI, which was designed to measure pathology, and the CPI, which was designed to measure interpersonal traits, were used in this study in order to assure that no assumptions were made about pathology.

It was also necessary to have an instrument that could be used with ease. Standard personality inventories were used instead of research instruments or new instruments. The use of a standard personality inventory would allow for a uniform data base providing information about psychological characteristics of male batterers. Also, the MMPI and CPI, especially the MMPI, are already widely used in many settings and there would be no additional expense, time, or effort expended in their use. These inventories are easily administered and scored and can be administered by trained technicians in a few hours.

The most important consideration of all is the clinical relevance of an assessment instrument. The batterer subscale would allow for early intervention in partner abuse as well as reducing the number of unidentified cases of partner abuse. Indirectly, the knowledge gained from research applications would be valuable in reducing battering.

Definition of Terms

There are several problems associated with defining battering. The literature indicates that there are many terms used for the act of violence that occurs between cohabiting partners. These terms range from the all inclusive "domestic violence" to more specific terms such as battering and assaulting. Not only is there a wide range in terms used to describe the act of battering, but there is also confusion about the use of some of the terms. For example, "domestic violence" is also used to describe any type of violence in the home from child abuse to partner abuse.

In addition to the problem of multiple terms for partner abuse, there are varying definitions. For example, Walker (1979), Sonkin et al. (1985), Ganley (1981), and Roy (1982b) consider abuse to be any physical or psychological act that is harmful. Psychological harm refers to "the implicit or explicit threats, controlling behaviors, irrational jealousy, mental degradation, and attempts to isolate the partner" (Sonkin et al., 1985). However, the legal system does not recognize psychological abuse and, realistically, many batterer treatment programs use the cessation of physical violence alone as a measure of successful treatment outcome.

Gelles (1980) points out that some physical violence may be considered normal. In many sectors of our society some slapping and hitting between partners is acceptable. An important question then becomes when does physical aggression become abuse. This appears to be a subjective decision at some point.

For this study it was necessary to delimit and to operationalize the definition of battering. The terms battering and partner abuse will be used interchangeably in this study. Partner abuse will mean the physical abuse between heterosexual adults in a intimate relationship. To further operationalize the definition, any male adjudicated for physical violence against his female partner will be considered a batterer or partner abuser.

CHAPTER II
LITERATURE REVIEW

In the past decade there has been a rapid increase in the number of articles and books written on the topic of partner abuse. Talk shows, popular articles and books, as well as professional journals, have described the problem. However, the majority of these writings center on the battered women. The professional journals report studies using descriptive as well as empirical data to describe the psychological and sociological variables of battered women (Walker, 1979, and Wilson, 1985). In addition, there are studies using control and comparison groups in their research design (Rosenbaum & O'Leary, 1980). A broad data base has now accumulated on which clinicians can rely to make sound assessments and treatment plans for battered women and researchers can determine any additional variables that need further investigation.

In contrast, the sparse literature on the abusive partner is comprised almost entirely of descriptions of the personality and sociological variables of the abuser. Very few studies are published using psychometric data and/or comparison and control groups (Sonkin et al. 1985).

The following literature review will focus on the male batterer. Descriptive studies will be reported first, followed by reviews, and then by empirical studies.

The earliest study reported was in 1960 by Schultz. He reported a psychodynamic case analysis of four black, southern males convicted of wife assault with intent to kill. He postulated that the abusers' wives' personalities were similar to the personalities of the abusers' mothers and that the abusive and aggressive relationship with their mothers paralleled their relationship with their partners. In addition, Schultz hypothesized that the dominant mothers would not tolerate aggression from their sons and that the sons projected this same perception onto their partners. The batterers felt that their wives would overpower them if they were assertive and therefore, the abusers tried to keep their partners powerless. Because their dependency needs were not met by their mothers, they transferred these needs onto their partners. However, Schultz further states the need to control while being dependent was a double bind situation for them. If there was a threat that the partner would leave, the abuser became more controlling and less loved. The end result was the use of violence to regain control of the loved one. Dependency and control were the key dynamics that Schultz saw in male batterers.

In 1964 Snell, Rosenwald, and Robey published case studies of 37 men charged with assault and battery who were referred for psychiatric evaluation and treatment. The researchers' psychodynamic interpretation of their findings indicated that the male partner abuser was a "passive, indecisive, and sexually inadequate husband" (p. 108). However, they also reported that the wife had a need to control the marital relation. The males' violence served to "release him" momentarily from his anxiety about his effectiveness as a man. Snell et al. postulated that the male batterer had unresolved feelings of inadequacy.

Erin Pizzey (1974) described the batterers as "alcoholics, psychotics, or plain bullies" (p. 92). They were "aggressive, dangerous, plausible, and deeply immature." She characterized them, in essence, as being deeply disturbed. Her descriptions were based solely on victim accounts and her report is an example of the bias that many studies may have.

In 1974 Faulk (1974) interviewed 23 men arrested for seriously assaulting their partners. Twenty-one were charged with murder, attempted murder, or grievous bodily harm. Sixteen were found to have a psychiatric disorder. In order to understand the personality dynamics of the offenders, Faulk categorized the batterers into five types of interpersonal styles. They were 1) dependent-passive, 2) dependent-suspicious, 3) violent-bullying, 4) dominating, and 5) stable-affectionate. The most common type was dependent passive. In addition, Faulk's study indicated that batterers may be severely disturbed individuals. However, his study has several methodological flaws. His sample was not typical because only very serious cases were used. Selection factors were operating. In addition, there were no objective criteria determining mental disturbance. All that one can conclude from this study is that some batterers may be psychiatrically disturbed.

Based on reviews of the literature, Elbow (1977) attempted to present four typologies of batterers. She based this typology on the emotional needs of the batterer and the significance of the mate's personality to each type of batterer. She related emotional needs to early family development. The first type was the "Controller" who needed autonomy. His mate was the object of his control and if he lost control of his mate, he lost control of himself. His need for control stemmed from overly controlling parents. The second type was the "Defender" who needed protection and love from his mate. He felt vulnerable without this protection. The "Defender" received the mixed message from his parents to be assertive but was punished when he was assertive with his parents. The third type needed affirmation and strength from his mate. He was the "Approval Seeker" and always received conditional love from his parents. They placed high expectations on him as a condition of their love. Lastly, the "Encorporator" felt that his mate was part of him and his existence depended on her. As a child he was not allowed to develop a separate self. Elbow believed that thwarting of the needs of this type may lead to violence. Elbow acknowledged that the four types were based on her clinical experience and reviews of the literature and stated that further investigation was needed.

Although Shainess (1977) did not report using a specific sample, she did draw from her experience with batterers to describe their personalities. She stated that chaos in the early developmental years of the child and a lack of exposure to appropriate marital behavior could be causative factors in later violence. She posited that a child may have identified with his punisher but, at the same time, he may not have been allowed to express his aggression. The result was a passive-aggressive male who felt helpless and vulnerable with his mate and harbored rage against the double bind in which he found himself. When his defenses were overloaded he might explode and attack his mate. Shainess used the term "congealed rage" to describe the feelings of the angry batterer.

Shainess described another personality type which is more sadistic than explosive. Such a person punishes his mate in cold, calm, calculated assault. Physical violence is only one manifestation of his attack on his mate. Shainess summarized that brute force was a display of power, a refusal to compromise, and a delay of gratification.

While focusing on the dynamics of the dyadic relationship, Symonds (1978) discussed various personality types which used violence in intimate relationships. He drew from the literature and clinical experience. The power struggle in the relationship was the central tenet of his theory of partner abuse. He posited that when a person felt powerful there was no need for violence. Consequently, the batterer was characterized as an inadequate personality who used violence as a means to feel powerful.

Symonds outlined four "character structures" that contributed to partner abuse. The first structure is the "impulsive, irritable, explosive, and immature" individual. He lacks verbal skills and tends to be action oriented. He has a history of exposure to family violence and endorses a grandiose and machismo attitude. Although he can be pleasant and likeable, his family tends to be objects for the displacement of his frustrations. Because he views his family as objects, he lacks compassion for the suffering he causes. Symonds pointed out that his personality type also characterized the profiles of child abusers, violent patients, and criminals.

Symonds' second type of batterer was the "Dr. Jekyll and Mr. Hyde" personality. Unlike the first type, this person experienced severe anxiety and guilt when his aggression was released. He was usually a compliant, dependent individual but had underlying resentment. His resentment was expressed by passive-aggressive acts that Symonds called "sweet hostility." Symonds felt that the bulk of reported partner abuse cases were made up of the "explosive" and the "Dr. Jekyll and Mr. Hyde" personalities.

The last character structure that Symonds discusses is the overcontrolled, compulsively hostile personality. He calls these individuals arrogant, vindictive personalities. This personality type is focused on the power struggle in the relationship and uses cruel and sadistic behavior to maintain his power. Symonds felt that psychological violence was more relevant for this type.

Symonds acknowledged that overloading a nonassertive partner may result in explosive violence. For example, compounding financial stresses in a relationship may cause the responsible partner (usually the male) to feel overloaded, then feel resigned, and lastly feel desperate. His desperation may lead to violence.

In summary, Symonds felt that personality structure may be a causative factor in partner abuse and posited several types of personality structures to account for the violence.

Roundsville (1978) reported data from battered women and described abusers as jealous, possessive, impulsive, and needy. However, he stated that the violence that occurred may be unique to a dyadic relationship. In other words, these traits may be dysfunctional or evident only when in a relationship with women.

In 1979 Breiner reported on the psychological development of violent patients based on his review of the literature. He profiled wife abusers as passive, indecisive, and sexually inadequate. Violent individuals, in general, were profiled. He characterized violent patients as having "aggressive driving styles" that resulted in repeated traffic violations. Their violence increased with age but the average age was between 15 and 24 years. They had a history of acting out behavior in childhood and tended to be sexually impulsive. They had emotionally impoverished childhoods with erratic supervision and brutal physical punishment. They had multiple sexual relationships but without genuine affection. They tended to be loners and blamed their lack of success on others. Prior to their violence, they experienced a loss of self-esteem either through loss of a partner or because they felt "put down." They tended to be uneducated with few employable skills and have a negativistic, sullen attitude. Certainly, many of these characteristics fit the DSM-III criteria for an Anti-Social Personality Disorder. Breiner felt that a person who responded with violence to a situation that was not a threat or a provocation tended to be mentally disturbed or have a character disorder.

He continued by stating that the violent personality was the result of inadequate ego integration. The developing child had not been able to progress from a passive to an assertive individual and feared being overwhelmed by his aggressive impulses. This fear came out of his inadequate identification with the same-sex parent and faulty integration of the superego of the parental image. In adulthood, any situation "which stimulated too much aggression, or weakened the control system, would release destructive behavior" (p. 133). Continuing, Breiner felt that as parents modeled behavior, so would the child imitate the modeled behavior. If parents used physical force, so would the child. In essence, he was saying that the seeds of violence are sown in early child development. Breiner's characterization of the violent individual appears to have some overlap with Elbow's, Shainess', and Symond's characterization of the male batterer.

Ponzetti, Cate, and Koval (1980), again drawing on reported cases, found five consistent factors associated with partner abuse. Abusers had a learned predisposition to violence, tended to have substance abuse problems, lacked the ability to express feelings, were emotionally dependent on their partners, and were unassertive. These five factors were consistent with previous literature reviews.

Although Cantoni (1981) reported on the characteristics of violence prone clients in relation to general domestic violence (incest, child abuse and partner abuse), she did specify certain traits of the male partner abuser. Her report was based on the existing literature. She held that the abuser had an intense need for care and love and yearned for someone to make up for his childhood losses. At the same time he was angry at the loved one's failure to nurture. Any withdrawal of love or attention was considered a reenactment of his childhood deprivation. Because these individuals had impoverished childhoods, they grew up with a lack of trust. Consequently, they tended to be social isolates. They may be very dependent on their loved one because as children their dependency needs were never met. They had inadequate ego structures because of their harsh and inconsistent care as children. Because they had never been able to meet their parent's expectations, they continued to strive for perfection and very likely experienced a great deal of failure. The inconsistent, unloving childhood environment resulted in a lack of internal controls and produced an individual with poor self-control. The feeling of poor self-control may have contributed to their need to control their world in order to maintain stability. Cantoni's summary description of batterers includes ambivalence, isolation, dependence, poor ego structure, seeking of perfection, lack of self-control, and the need to control. These descriptors are consistent with previous reviews.

Ryan (1982) interviewed ten batterers and determined their thoughts prior to the battery. The men reported feeling helpless and were trying to cope with their vulnerability. The batterers had made a request or a demand for the partner to change her behavior and, when she refused, they used violence to regain control. This study gave a direct account of the batterers' feelings of helplessness and lack of control.

Wetzel and Ross (1983) reviewed the literature and filtered out eleven traits that batterers exhibit. They were jealousy, control and isolation of partners, a Jekyll and Hyde personality, encounters with the law, projection defenses, verbal as well as physical abuse, a history of family violence, violence intensified during the pregnancy of the partner, denial of the problem, employment of the "cycle of violence," and then finally contrition. The purpose of their analysis was to develop a counseling methodology with the victims. However, their traits are vague and were derived from the victim's point of view.

Gondolf, in 1985, also reviewed the literature for counseling methodology purposes but this time he was interested in the treatment of the abuser. He recognized that most of the information on batterers came from the abused partner and considered this a problem for clinicians. The victims described the batterer as having low self-esteem, traditional sex roles, and a tendency to justify himself. Any threat seemed to threaten his self-image. He had poor communication skills and had outbursts of anger. He seemed to have a great need to control his world. In addition, he had an overbearing sense of responsibility for others and the expectation of male privilege.

Gondolf presented three possible causes of these traits. The first centered around male children growing up in a female world and feeling a need to exaggerate masculinity to compensate for the lack of maleness. As a result, they may become "women haters" in order to contain their own feminine aspects. The second cause of the battering may be attributed to learned violence from our culture and violent families. The violent interactional pattern was carried on from generation to generation almost like a tradition. The third causal perspective was sociological. Gondolf posited that women have been the objects of oppression in our patriarchal society and in order for the batterer to have his place, he must keep his partner in her place. Gondolf concluded that all three factors contribute to the formation of the abusive pattern.

Powers and Kutash (1982) discussed substance abuse and partner abuse and related these two factors to personality dimensions. They stated that inadequate ego functioning may lead to efforts to alter internal functioning and hypothesized that the premorbid personality of the substance abuser may have led to substance abuse and a greater potential for violence. They pointed out that some premorbid personalities are associated with violence and substance abuse (antisocial, passive-aggressive, and explosive). Psychotics and depressed individuals may be included in this group. In essence, they felt that the interaction of the premorbid personality and substance abuse may potentiate partner abuse.

Raiha (1982) discussed violence in the military. She felt that increased stresses from military life and a military personality (rigid and authoritarian) may lead to greater potential for partner abuse in the military.

Schlesinger, Benson, and Zornitzer (1982) classified violent individuals into three groups. There were those whose violence was due to a psychiatric condition, violence due to episodic dyscontrol, and violence due to domestic conflict. Although there could be battering in all three classes, Schlesinger et al. acknowledged that pathology and domestic violence may be separate issues depending on the cause. They also pointed out that violence has increased over the years and may be due to the breakdown of social stability. They hold that violence is due in large part to stress.

The studies discussed so far are based on case studies, interviews, and reviews of the literature. They characterized the batterer as having a deprived childhood and a disturbed maternal interaction pattern. The childhood deprivation and disturbance resulted in an individual with strong dependency needs, poor self-concept, lack of assertion, poor impulse control, and a need to control his partner. However, some batterers may have more antisocial traits and may lack empathy. The following studies are more comprehensive and provide critical reviews of the literature.

In 1980 Gelles reviewed the research on family violence in the 1970s. He pointed out that the research in the 60s centered around the emotionally disturbed or poor individual as the source of domestic violence. In the 70s researchers felt that domestic violence could not be explained solely by psychological factors. They felt that it was necessary to establish other factors associated with partner abuse, establish reliable estimates of abuse, and develop theoretical models of the causes of partner abuse. Gelles believed that besides the need to test theories and build new ones, there was a need for longitudinal studies,

studies with nonclinical samples, and studies with increased diversity of measurement instruments and data collection techniques. He stated, "where formerly, conventional wisdom and myths prevailed, now there are empirical data and tested propositions" (p. 876). Gelles' review emphasizes the need for a greater knowledge base for theory building.

Edelson, Eisenkovits, and Guttman (1985) presented a critical review of published research on the partner abuser. Their review drew primarily on data gathered from violent men. They found that batterers come from violent families, and either saw abuse or were abused. The second finding was that chemical use and violence go hand in hand. The relationship between substance abuse and violence was unclear and was an area that needed further research. The third finding concerned the personality characteristics of batterers. They pointed out that the previous studies reflected the different theoretical orientations of the researcher (psychodynamic, behavioral, etc.), and thus commonalities were hard to find. They expressed concern that focusing on personality traits that made these men different from others may take away their personal responsibility. When reviewing the sociological studies, they found that there may be a danger of identifying batterers from the low socioeconomic strata because they were highly visible. There was a need to study men who have not been publicly identified as batterers. However, they did not offer suggestions as to how this was to be done. Lastly, they analyzed the violent event and felt that the researchers failed to understand the event because it was taken out of context. In summary, Edelson et al. emphasized the need to have a comprehensive theory to explain all the data published.

Hoteling and Sugarman (1986) published the most comprehensive review of the research on partner abuse in order to determine risk markers for the victim, the abuser, and the couple. They thoroughly searched the literature and mathematically analyzed the data for significant correlations. In addition to risk markers, they evaluated what was known about spouse abuse based on reliable evidence; second, they determined the soundness of the knowledge; and third, they examined the relationship between knowledge, policy, and treatment. In relation to the abuser, they found six risk markers that discriminated batterers from nonbatterers. They are 1) early exposure to family violence, 2) low assertion, 3) few educational and economic resources, 4) likelihood of antisocial behavior, 5) alcohol abuse, and 6) more general aggression.

Hoteling and Sugarman found that, although power and decision-making may be elements in violent relationships, the research in this area was inconsistent. They stated that a multifaceted interpretation of partner abuse was supported only when personality factors were considered. In spite of the literature downplaying the importance of the dynamics of the personality of the abuser, Hoteling and Sugarman's analysis of all the studies indicates that personality is a crucial factor.

The next focus of this literature review will be studies that use more rigorous methodology.

In 1972 Gelles, a sociologist, published the first study using empirical data. He conducted 80 interviews with families in which violence was known to have occurred. From the analysis of the data he constructed an eight-fold typology of violence based on the perspectives of the abuser and his victim. First, he found that physical force was "expressive" or "instrumental." That is, the violence and resulting pain was a way of expression for the batterer, or it was a way to induce another to carry out an act. Second, the act of violence was considered legitimate" or "illegitimate" depending on the justification that the offender felt in committing the act. The last factor was the provocation by the victim, and how the provocation influenced the perception of the aggressive act. Using his typology theory Gelles concluded that under certain conditions partner violence may be considered normal and may not be the result of deviancy. The normalcy of the violent act depended on the perceptions of the abuser and the victim.

In addition to typology, Gelles described the incidents of violence according to frequency of place and time with the kitchen and bedroom being the most frequent places and evening and weekends being the most frequent times for partner violence to occur. He found that violence is most common in families with low education, low income, and low occupational status. His study supported the hypothesis that violence was more prevalent in families in which the husband's education and job status were lower that the wife's. O'Brien (1971) and Goode (1971) accounted for the greater frequency of violence in marital relationships with discrepant education and job status. They hypothesized that education and job status gave the male a superior role as head of the household and if this status were questioned, the husband felt that he was not fulfilling his role and experienced frustration. The frustration led to violence.

In summary, Gelles' study pointed out that the batterer's perception of the use of violence and his perceived role discrepancy may be factors in partner abuse.

Coleman (1982) reported on the demographic variables and the nature of the violent episodes, the background of violence, as well as the psychiatric histories and clinical impressions of 33 self-referred batterers. She used interview data, the Bem Sex Role Inventory, and a psychological self-rating scale of personality traits (unnamed in the study). There were no comparison groups in her study. Her results indicated that 24% of the men had psychiatric histories. The majority of the group observed or experienced violence as a child. Some of the men had a history of marital violence and Coleman reported that in 40% of the cases violence had occurred in previous relationships. Only 12% admitted punishing their children harshly and physical violence outside the home was unusual. The men tended to have traditional views of manhood, feeling that men should be strong, dominant, superior, and successful. When the men felt inadequate in these areas their self-esteem was devastated. They had strong, unrecognized dependency feelings about their partner and felt betrayed and frightened when these needs were not met. The abuser saw his major role to be the breadwinner and decision-maker. When these roles were threatened he felt inadequate, provoked, and angry, but repressed these feelings. Coleman stated that violence was a sure way that the abuser could feel adequate. Coleman's study was the first time that a psychological assessment instrument was used in batterer research.

Straus, Gelles, and Steinmetz (1980) continuing the study of sociological factors of partner abuse, reported on the analysis of interview data from 2,143 families drawn from a national sample. They measured the incidence and level of violence between spouses and analyzed the interrelationships between demographic variables. In addition, they investigated the relationship between conflict and violence and found that with a greater frequency of conflict, there was a greater frequency of violence. They found that men and women without religious preference had the highest rates of partner abuse. They also pointed out that individuals without religious preference tended to be more unconventional and have the highest divorce rates. They postulated that people with no religion felt less constrained by social rules. They also found that couples in marriages of mixed religion had higher rates of violence. It appears that the type of religion has no effect on violence, but lack of religious preference and mixed religions do.

Straus et al. looked at other sociological variables and came up with some surprising results. Contrary to Gelles' 1974 study, Straus found that those most likely to be violent were high school graduates and the least likely were men with some college education. Thus, the expected monotonic relationship between lower education and higher violence was not found.

For income, Straus et al. found that income had a inverse relationship to battering. That is, the lower the income, the higher the rate of battering. However, they caution that low income battering may be more likely to be reported. Higher income battering may be less reported or reported to nonlegal professionals.

When regional differences were considered Straus et al. found that rates of battering were evenly distributed throughout the country. Although the South may have a reputation for violence, the statistics do not bear this out. However, the study did find that the rate of spouse abuse in the suburbs was half that in the larger cities.

Straus et al. found that black men had a higher rate of battering, nearly 400% higher that white men. They postulated that discrimination, low income, and disenfranchisment may contribute to the greater rate of violence in black men. However, blacks are over-represented in the lower income groups and this statistic may not be representative of black men as a group.

In summary, income appears to be the outstanding social variable associated with battering.

This researcher could not find any study that specifically compared single male batterers and married male batterers. Most studies grouped married and unmarried couples that were cohabitating. Therefore, it is not possible to present any data on differences between these two groups.

In 1981 Rosenbaum and O'Leary reported on groups of maritally dysfunctional couples with and without violence compared to a maritally satisfied group. They used a marital adjustment inventory, a sex role inventory, and a measure of alcoholism and assertion. The results indicated that violent husbands differed from nonviolent husbands in that they were less verbally assertive and were more likely to have witnessed abuse as children. Joseph (1983) and Titch and Lindquist (1983) found similar results. Alcoholism was strongly associated with abuse in that the violent men had greater substance abuse. Abusive couples were more dissimilar to each other than nonabusive couples in attitudes toward sex roles. In addition, there were more mixed religions among violent couples. Surprisingly, violence was not always associated with marital discord. Although the results of this study added important knowledge about batterers, the real significance was in the rigorous methodology used in the design. For the first time comparison and control groups were used in a study of batterers.

Subotnik (1983) compared "over-controlled" and "undercontrolled" batterers and found no differences. Both batterer groups felt they were not controlling their partners. However, when both groups were compared to a control group, the batterers saw the world as less friendly than the control group. Although this study used comparison groups in its design, the results appeared to be rather vague.

In 1984 Bernard and Bernard tested 57 self-referred batterers using the MMPI. They found that the composite group profile indicated a "severely alienated person with a character disorder." Scales 4, 7, and 8 were clinically elevated. This was the first time that a well known psychometric instrument was used to gather data about partner abusers. However, no control group was used, and there was no description of the selection factors.

Rouse (1984) used a sample of 79 randomly selected males and administered the Conflict Tactics Scale (Straus, 1979), Rosenberg's Self-Esteem Scale (1965), and a locus of control scale specifically designed for the study. His results suggested that the amount of violence in childhood influenced the likelihood of violence in adulthood. Early victimization was associated with lower reported self-esteem and a greater sense of fatalism. Lowered self-esteem was only mildly correlated with conflict. Personal efficacy was significantly related to conflict tactics. Rouse suggested that locus of control and self-esteem may not have the relevance that previous studies indicated. For example, Serum's (1982) profile of batterers indicated that these men were predominantly controlled by external factors and resisted taking responsibility. Rouse suggested that more work needed to be done with locus of control and batterer's personality.

Dutton and Browning (1983) compared physically abusive, verbally abusive, and nonabusive males on specific emotions aroused. They found that the abusive males reported higher levels of overall anger and were less likely to use reasoning. When the men were shown video tapes of abandonment the abusive males reported significantly higher levels of anger. The abusive males were least likely to be violent in situations (as seen on tapes) portraying engulfment (females desiring more emotional intimacy). It appears that batterers' feelings may be linked to specific emotional situations and that these feelings were different from nonbatterers' reactions.

Telch and Lindquist (1984), comparing batterers with nonbatterers, reported higher levels of aggression and passivity and lower levels of assertion for batterers. However, the researchers did not draw any conclusions about the connection between these traits.

Roy (1984) published the results of a trend analysis of demographic data reported from 4000 abused women. She reported data on the batterer as well. Most abusers were 26 to 35 years old but many were between 36 and 50. Most had blue collar jobs and had working partners. Ninety percent of the abusers had no criminal records. Over 80% of the abusers had a history of childhood abuse or had witnessed abuse against their mothers. About 35% had alcohol problems and 16% had drug-related problems.

Lastly, major changes/stresses in the partnership increased the level of violence. Roy felt that most abusers were law abiding citizens with jobs. However, batterers without criminal records had previous convictions of spouse battery. Roy's study was based on a large data pool and, as such, presented reliable data. Although the study does not directly address the personality traits of male abusers, it confirmed many of the previous studies reporting histories of childhood abuse, alcohol abuse, and external influences as factors in partner abuse. Roy found little evidence of sociopathy in her sample.

Hamburger and Hastings (1986), in order to discriminate between abusers who accepted treatment and those who did not, conducted a study of the personality traits of 105 batterers and an additional 100 batterers for a cross validation sample. All men were court ordered into treatment. Although they reported collecting data from a psychological test battery, they did not present this data but reported demographic data only. They found that the majority of abusers were white, married or separated, primarily blue collar workers, at least high school educated, and Protestant or Catholic. Twenty-eight percent were abused as a child and 26% witnessed maternal abuse. Abuse as a child or witnessing abuse was a positive factor in treatment acceptance. This study with its large sample provided support for Roy's results.

Coleman and Straus (1986) used data from a previous study (1981) of 2,143 couples and surveyed an additional 1,183 women and 960 men. They measured marital power by asking 5 questions which involved domestic decision-making situations. A Marital Conflict Index was constructed for this study and was an index of the amount of agreement by the couple regarding 7 domestic situations. Marital violence was measured by The Violence Scale of the Conflict Tactics Scale (Straus, 1979). Couples were classified into 4 types of marital power-equalitarian, male-dominant, female-dominant, and divided power. They found that male-dominated relationships had the most conflict and violence among the four marital types. They concluded that the greater the level of conflict, the greater the level of violence. However, when conflict occurred in male-dominant or female-dominant power structures, there was a much greater risk of violence. Equalitarian power structures had the least conflict and violence. Although nonbattering comparison groups were not used, Coleman and Straus parcel out the four groups by marital power and compare them on conflict and violence. The large sample provided sound data.

Recently, Maiuro, Cohn, Vitaliano, Wagner, and Zegree (1988) studied groups of assaultive men. One group was domestically assaultive, while the other two groups had general assaultive behavior. They used a control group of nonviolent males and their assessments included the Buss-Durkee Hostility Inventory (BDHI), the Hostility and Direction of Hostility Inventory, and the Beck Depression Inventory. They found that all assaultive males, when compared to nonassaultive males, had higher levels of anger and hostility. However, the domestically violent men were significantly more depressed than the other groups. The study points out the need to look at depression as well as anger when considering the intrapsychic traits of the batterer. Interestingly, the BDHI is comprised of 51 items from the MMPI. These were not empirically derived but were selected based on the clinical judgment of their relationship to hostility. The BDHI was normed on 58 college men and 88 college women. Perhaps the BDHI may be useful in discriminating batterers from nonbatterers but it was normed on college men and women and may not be appropriate in the population at large.

In summary, a review of the studies that used more rigorous methodology revealed several psychological and sociological variables associated with batterers. These are violence in childhood, low assertion, alcohol abuse, low self-esteem, hostility and anger, depression, traditional sex roles, and couples perception of the violence. Low income, moderate education, mixed religion or lack of religious preference, time and place of violence, and greater frequency of conflict and stress were sociological variables associated with battering. Despite the increased use of psychological assessment instruments and better research design, few of the studies combine the use of both. Rosenbaum and O'Leary (1981), Dutton and Browning (1983), Joseph (1983), Subotnik (1983), and Mauiro et al. (1988) are the only studies which use comparison or control groups. Among those, Dutton and Browning and Subotnik were the only researchers to use partner abusers exclusively as a data source.

The studies which included psychometric instruments were Rosenbaum and O'Leary (1981), Bernard and Bernard (1984), Rouse (1984), Coleman and Straus (1986), and Mauiro et al. (1988). Only Bernard and Bernard used a widely known and reliable instrument--the MMPI (Dahlstrom, Welsh, & Dahlstrom, 1972). However, they did not use comparison or control groups. In addition, the MMPI was designed to find pathology and may have distorted the results.

This review finds, in essence, that no reported research used both sound psychometric instruments and control or comparison groups to study the personalities of partner abusers. Thus, there is a great need for this type of empirical research in order to add to the knowledge base of partner abuse. In addition, this review finds no studies that use an assessment instrument specific to batterers.

Development of the MMPI has taken two courses since its beginning nearly 40 years ago. In addition to research that concentrated on the development of profile patterns and configural rules for guiding interpretation of the basic scales, there has been a parallel line of research that focused on the construction of additional scales. Since the first publication of the MMPI, there have been 550 special scales developed and published. This literature review will present some of the most widely used special scales in order to give the reader some flavor for the development of a special scale.

Taylor, Spense, and Taylor (1980) constructed a manifest anxiety scale by selecting 200 items on the MMPI and submitting these to 5 clinicians' judgment for inclusion. The clinicians selected items based on each item's best fit to Cameron's definition of manifest anxiety. After several revisions, the scale now consisted of 50 items. The test was normed on 1,971 students in Introductory Psychology classes at the University of Iowa in 1948. Retest reliability was .89 after 3 weeks for a sample of 59 students and .82 after 5 months for a sample of 113 students. This special subscale has been used in many studies and is the basis for The Spielberger State-Trait Anxiety Scale (Dahlstrom & Dahlstrom, 1980).

In 1953 Barron (1953) published a paper which described the development of the Ego Strength Scale on the

MMPI. It was originally designed to predict the response of psychoneurotic patients to psychotherapy. A total of 68 items was selected from the original 500 items based on items that gave significant correlations (.01) with rated improvement of 33 neurotic patients at a psychiatric clinic. The sample was divided into two groups by clinicians' judgment--those who improved (17) and those who did not improve (16). Interjudge agreement for improvement was .91. Apparently, it was felt that the clinicians' accuracy in judgment was so clear cut that a small sample size was not a problem. The improved group scored significantly higher (.01 level) than the unimproved group on the 68 items. The scale was then cross validated on three new samples totaling 151 patients. All patients were diagnosed neurotic, had close to 6 months of therapy, and were in clinical settings similar to the original sample. Independent ratings of improvement were given for each patient and used as criterion groups. The improvement correlations ranged from .38 to .54 for all three groups.

MacAndrews (1963) derived a special scale on the MMPI to differentiate alcoholic outpatients from nonalcoholic psychiatric outpatients. He used 300 alcoholics and 300 nonalcoholics. The nonalcoholic group was classified based on reported histories of "no problem drinking." A standardizing group of 200 and a cross validation group of 100 were drawn from each original criterion group. Chi squares were computed for the standardization groups and those items with significant chi squares (.01 level) were selected. Fifty-one items were selected and ranked in order of chi square values. Two items were discarded which directly asked about alcohol usage. Anyone scoring 24 or higher was classified as an alcoholic. In the cross validation sample 81.5% were correctly classified using a cut off score of 24. The MacAndrews' assessment instrument is now considered a standard for determining alcoholism.

In 1984 Keane, Malloy, and Fairbanks reported on the development of an MMPI subscale for the assessment of combat related Post-Traumatic Stress Disorder (PTSD). The subjects were 200 male veterans referred for differential diagnostic assessment. One hundred subjects were Viet Nam combat veterans diagnosed independently by two treatment team members using a structured interview. In addition, 90 of the 100 veterans were administered a multimodal psychophysiological assessment procedure that had reliably distinguished combat veterans with PTSD from relevant comparison groups. There were 100 subjects in the psychiatric control group. They were assigned diagnoses other than PTSD. All subjects were given the first 400 items of the MMPI, Form R as part of a routine assessment. Sixty percent of the subjects from each group were included in the standardization and 40% from each group were reserved for the cross validation group. All groups were matched for age and diagnosis. A chi square analysis was done on the 400 items resulting in 49 items that were significant with p values of .001 or less. Thirty was the cut off score for separating the PTSD group from the non-PTSD group. The 49 items correctly classified 82% of both samples. This scale is now used in many veterans hospitals as part of their standard assessment procedure.

In summary, since the initial development of the original 13 clinical scales on the MMPI, there has been an assortment of special scales developed for specific populations and purposes. This particular line of MMPI research appears to be a logical approach to many assessment problems because of the widespread use of the MMPI and its empirical construction foundations.

CHAPTER III
METHODOLOGY

The purpose of this study was to determine if there is a group of items on the MMPI and CPI that could discriminate batterers from nonbatterers. This section will discuss the methodology used in this study, including a description of the subjects and how they were selected. Also, this section will describe the instruments used, as well as the procedure used to collect the data. The last sections are the research design and the statistical analysis.

Subjects

The subjects in this study consisted of 90 males. Fifty-seven subjects were court referred male batterers and 30 were nonbatterers who volunteered from the population-at-large. A complete definition of group demographics can be found in Tables 4.11 through 4.15.

Batterers. The fifty-seven male batterers were drawn from four treatment programs for court referred, adjudicated male batterers. They ranged in age from 18 to 55 years. All subjects had used physical violence in some way against a spouse or girlfriend and their offenses ranged from arson to assault and battery. Treatment programs in four Florida cities participated in the study--Gainesville, Jacksonville, Ocala, and Orlando. All subjects were asked to participate in the study by the Director of the programs and agreed to sign a consent form (see Appendix D). There was no money given as compensation for participation; however, feedback from the MMPI and CPI was given to the subjects by their therapist. Forty-seven of the batterers were given the MMPI in a group format with this researcher reading the questions and subjects answering on Form R answer sheets (Dahlstrom, Welsh, & Dahlstrom, 1972). Ten of the batterers were administered the MMPI individually as a routine assessment for the Gainesville treatment program. One batterer could not read and the questions on the MMPI were read to him. All batterers were given the CPI to complete at home. Twenty-seven batterers completed and returned the CPI. All demographic data were derived from the program assessment procedures.

Nonbatterers. Seventy data packets consisting of a consent form (see Appendix C), demographic form (see Appendix B), screening form (see Appendix A), and MMPI-Form R and CPI inventories and response forms were given out. Thirty-nine males completed and returned the packets. Four arrived too late to be included in the analysis. Subjects in the nonbatterer group came from four Florida cities--Gainesville, Jacksonville, Orlando, and Tampa. They ranged in age from 18 to 55 yrs. Twelve subjects were from an advanced career planning class at Santa Fe Community College in Gainesville, FL. This class was chosen because the students were over 19 yrs. old with the average age being 20 yrs. In addition, the instructor stated that many of the students in this class were vocational students training in blue collar jobs. These students were chosen because they approximated the job status of many of the batterers. These 12 subjects were administered the MMPI in a group format with this researcher reading the questions to the class. The remaining 27 subjects were volunteers who took the MMPI individually. Five of these 27 subjects received five dollars in remuneration for their participation. Remuneration was not permitted by Sante Fe Community College for the subjects who participated in the study, and the remaining 22 subjects did not wish to accept remuneration. All subjects could receive feedback; however, only 5 subjects requested feedback. All control subjects were given the CPI to complete at home with 15 responding with completed forms. An attempt was made to match the batterer and nonbatterer group for education, race, marital status, income, and age.

Procedure

All subjects in the batterer group were told that the assessments were going to be used as part of a research project and were given assurances of confidentiality. The batterers were told that this was a project that was investigating the personality characteristics of batterers. The instructions in the beginning of the Form R MMPI booklet were read for group and individual administration. If group members had a question about an item, they were instructed to raise their hand and then the question would be repeated or clarified. Each group administration took approximately 1 hour. Only the first 400 items were read. Before the MMPI administration, subjects were given the CPI and its response sheet in an envelope and instructed to respond to the CPI with a true or false answer that best characterized how they felt at the time they completed the inventory. They were told to return the CPI to their program therapist or instructor as soon as they could complete it. In addition to the CPI, each subject was asked to read and sign the consent form if he wished to participate. Nonbatterers were asked to complete the demographic and screening questionnaire as well. After signing the consent form, the group administration began.

In order to obtain a sample of men who did not batter, a questionnaire was devised that would ascertain if the respondents had used physical abuse with their wife or girlfriend in the last 5 years (see Appendix A). Because most men would be reluctant to admit to using violence in a relationship, it was necessary to construct a questionnaire that would covertly assess violence. This was done in three ways. First, the questionnaire was called a "conflict resolution" instrument. The respondents were told that the study was assessing general ways that couples settled everyday differences. Second, by normalizing some violence in relationships (Gelles, 1979), respondents may have been more likely to admit to physically violent methods of settling disputes. This was done by listing examples of ways that couples resolved disputes, including some physical means such as hitting or slapping. Lastly, by embedding violent methods of conflict resolution in with non-violent methods, respondents may have been less likely to discover the screening purpose of the questionnaire. Thus, by constructing a questionnaire with these three considerations, there would be a greater likelihood of obtaining a sample of uncontaminated nonbatterers.

The decision to use 5 years as a cut off point for the use of violence was arbitrary; however, it was felt that it may have been too difficult to obtain a nonbattering sample if all males were excluded who had ever used violence with wives or girlfriends.

The questionnaire consisted of 21 questions that assessed methods of conflict resolution. Seven of these questions described violent means of conflict resolution. The subjects were instructed to tell "how often in the past five years you have used the following methods to resolve conflict." They were asked to rate the methods on a Likert scale from 1 to 5 with one being never and five being frequently. Any one who endorsed a 2 or more on any item of violent method was excluded from the study. Only one male was found who endorsed any one of these items. In addition, the questionnaire assessed lifetime charges, convictions or deferred prosecutions of assault and/or battery against a girlfriend or wife. Anyone answering yes would be excluded: however, no one was found answering yes to this question. All control group members took this questionnaire, resulting in one exclusion.

Instruments

The Minnesota Multiphasic Personality Inventory (MMPI) is designed to assess personality traits affecting person and social adjustment. This instrument is widely known and used, and is well constructed and validated (Dahlstrom & Dahlstrom, 1960). The test consists of 556 items and was designed to screen psychiatric subjects on a criterion-keyed basis. Items used could discriminate one category of mental illness from other categories and normals. There are ten clinical scales and three validity scales. The MMPI scores are reported as transformed scores for each of the 13 scales. In general, the higher the score the greater the pathology in the given scale. Scores over 70 are greater than two standard deviations above the mean. The MMPI is the most used and researched psychological assessment instrument and continues to be developed in many areas of personality research.

The California Psychological Inventory (CPI), like the MMPI, is designed to assess personality traits; however, the CPI measures socially desirable behavioral traits instead of pathological characteristics. The CPI is widely known and used and has been carefully constructed and cross validated. Many of its items are taken from the MMPI. It consists of 480 item true-false questions and is specifically designed for a normal population. There are twenty scales including validity scales. The scales fall into four categories: 1) Poise, Ascendancy, Self-Assurance, and Interpersonal Adequacy; 2) Socialization, Responsibility, Intrapersonal Values, and Character; 3) Achievement Potential and Intellectual Efficiency; 4) Intellectual and Interest Mode. Like the MMPI, the scores are transformed scores for each of the scales. However, if the scores fall outside of two standard deviations from the mean, this is not indicative of pathology (Megargee, 1972).

Research Design

The MMPI is the most widely used assessment instrument available today. Therefore, it was logical to use this instrument in the development of an assessment procedure for batterers. However, as seen in Bernard and Bernard's (1984) study, general elevations of certain scales do not tell the clinician much about the classification of batterers because the same elevation can be found for other criterion groups. Therefore, development of subgroups of items within each clinical scale would add precision to the interpretation of the MMPI and help in classification (Clopton, 1979).

Methods of subscale construction have been described in Dahlstrom, Welsh and Dahlstrom (1972) and Clopton (1979) and includes three procedures described in the literature review of this study. The first method was the intuitive approach best characterized by the Manifest Anxiety Scale devised by Taylor, J., Spense, S., and Taylor, A. (1980). The second method used the internal consistency of interitem correlations and is best shown by the Wiggins Content Scale (Wiggins, 1980). The last method of subscale construction was the empirical scale method used by MacAndrews' (1963) Alcoholism Scale and Barron's (1980) Ego Strength Scale. This last method, empirical scale construction, was the one chosen in this study as a method to determine items or combinations of items that would discriminate batterers from nonbatterers. This method relies on statistical techniques to identify items as well as careful sample selection.

Any classification--prediction procedure depends upon the pureness of the validation sample. In this study it was necessary to select, within reason, a relatively pure sample of batterers as well as an uncontaminated sample of nonbatterers. This was a difficult task for both groups because estimates of battering are unreliable, definitions of battering are vague, and the behaviors associated with battering are not well researched. However, by narrowing the defining behavior of the batterer group to court referred adjudicated male batterers, this study could have confidence in the pureness of its sample of batterers. With the nonbatterer group it was necessary to exclude all men who had ever been adjudicated for battering and/or who admitted to using physical violence in the last 5 years. An adequate degree of criterion purity was secured by using the selection criteria described above for the batterer and nonbatterer groups.

After careful criterion selection, the next step in the empirical method of subscale construction was the selection of items. This was done by statistically selecting items that discriminated between groups. A discussion of the statistical method for selection will follow this section. After items were selected, they were tried out against a validation sample to determine if they could correctly classify subjects with an acceptable degree of accuracy.

Statistical Analysis

Two separate methods of statistical analysis were done in order to extract significant items--the chi square test and discriminant analysis.

The traditional method of sorting out items that discriminate between groups is the chi square test (Clopton, 1979). In this method 2 x 2 contingency tables are computed for each item and the response frequency for each item is determined by group. Only those items that are significant at a predetermined probability level are selected. Although the chi square test is an adequate test for extracting items, it does not take the redundancy of items into account when determining variance accountability. In the chi square test each item is tested for its individual contribution to the pool of variance.

Even though the chi square is the traditional statistical method used in empirical scale construction, there are several authors who support the use of discriminant analysis as a statistical method in classifying populations (Maxwell, 1977 and Afifi & Clark, 1984). Afifi and Clark state that discriminant analysis is not only useful in classifying individuals into two alternate groups, but this can also be used to determine which set of variables (items) contribute to making the classification.

Before beginning the discriminant analysis, Afifi and Clark (1984) suggest using a regression analysis to sift out variables (items) that are not useful for investigation. This is particularly helpful when the investigator has reason to believe that there is such a subset of variables, as is the case with the large number of items on the MMPI or CPI. Also, Afifi and Clark report that the regression analysis is useful as an exploratory procedure when there is no standard model available to describe the population under study. Indeed, this is the first time anyone has investigated the batterer population in this manner.

A forward selection method was used in performing the regression analysis. That is, the first item chosen accounted for the greatest amount of variance in the model. As each item was introduced into the model it was evaluated in combination with the preceding items. A percentage of the variance was determined which accounted for each combination of items. As each step progressed a lesser and lesser amount of variance was left to account for, until the last item was introduced that accounted for the remaining small amount of variance. This method used a $p = 0.15$ value for inclusion in the model.

After the items were selected by the regression analysis, the items were subjected to the discriminant analysis. In discriminant analysis a linear discriminant function is derived for each group by selecting coefficients in the model

$$Z = a_1 X_1 + a_2 X_2 + \ldots + a_n X_n$$

where Z is the discriminant function of the linear combination of variables (items), X is the variable (item), and a is the discriminant coefficient. These coefficients may be thought of as weights in the model. Thus, the higher the coefficient, the greater weight that item has. This model selects item coefficients that maximize the distance between the two groups. Only items that contribute to the maximum distance between groups are selected for inclusion in the model. The maximum dividing point is D^2, where D^2 is

$$\frac{(Z_1 - Z)}{S^2}$$

and S^2 is the pooled variance of the two groups. Both a and D^2 are functions of the group means and the pooled variances and covariances of the items (Lachenbruch, 1975).

The discriminant analysis would find that set of items which maximally discriminates between groups. For this reason the discriminant analysis was used because it would select items that correctly classify subjects as batterers. The chi square was done as an alternate method of statistical analysis. The probability level chosen for the chi square test was .006. The decision to use the .006 probability level was somewhat arbitrary; however, it was felt that at this level only items that were most discriminating would be chosen.

After the items were selected, it was then necessary to determine the goodness of fit of the items. This is part of the cross validation procedure and is usually done by splitting the original sample into halves and using the second sample to determine if the chosen items can correctly classify. Unfortunately, this was not feasible in this study because of the small sample size. Afifi and Clark (1984) recommend that the jackknife statistical procedure be used when the n is small. In the jackknife method one observation from the original group is excluded and then the discriminant function is computed based on the remaining observations. The excluded sample is then classified. This procedure is repeated for each observation. Although the jackknife procedure produces more bias than the splitting cross validation procedure, it is necessary in this study because of the small sample size.

In addition to the above procedure, frequency tables were computed for all demographic variables. In this way one could determine at a glance if post hoc tests are needed. And in fact, such is the case.

A MANOVA was done on each MMPI item for education groups by criterion groups. This was done because of the higher frequency of college educated men in the control group. Also, a discriminant analysis was done by dividing the groups into educational levels and then determining if the chosen items could still correctly classify the subjects into batterer and nonbatterer groups.

In summary, a discriminant analysis and a chi square analysis were done on the MMPI and the CPI in order to extract items that would correctly discriminate batterers from nonbatterers. In addition, the jackknife procedure was used to cross validate or determine the percentage of batterers and nonbatterers that could be correctly classified according to the previously selected items on the MMPI and CPI. Frequency tables were computed for all demographic variables and post hoc tests were done in order to determine if education played a significant role in discriminating between groups.

Further post hoc tests were not done because of the financial cost of computer analyses. There were no data in the literature indicating that the other demographic variables would be discriminators between groups.

CHAPTER IV
RESULTS

This study was designed to investigate the problem of selecting items on the MMPI and CPI that would discriminate batterers from nonbatterers. Two methods of analysis, discriminant analysis and chi square analysis, were done to determine if separate subsets of items on each personality inventory could discriminate between the groups. Presented in this chapter are the results of these analyses. Also presented is the demographic data in frequencies for each demographic variable. Post hoc tests were done between the two groups to determine if education played a significant role in discriminating between groups.

SAS statistical package was used for all statistical analysis except the "Jackknife" procedure. For this procedure the BMPD statistical package was used. All analyses were done at the University of Florida computing center.

Stepwise Regression Analysis and Discriminant Analysis for the MMPI

Fifty-seven batterers and thirty-four nonbatterers completed the first 400 items on the MMPI. The results of the stepwise forward regression analysis revealed that 78 items accounted for 99.80% of the variance in the linear regression model. Listed in Table 4.1 are the MMPI items numbers in order of inclusion in the model, the F value for inclusion, and its corresponding probability level. Table 4.1 also lists the incremental variance as shown by the average squared canonical correlation. Some explanation may help in understanding the average squared canonical correlation. MMPI item number 249 was selected first by the stepwise regression analysis and accounted for 27%of the variance in the model. Next, item number 383 was added to the model because it accounted for 41% of the remaining 73% of the variance. This calculation was done again and again until it chose item number 350 which accounted for almost 100% of any incremental variance that remained. The minimum F-to enter level corresponded to a P value of 0.15 which is considered standard for this type of analysis (Bendel & Afiffi, 1977). The probability level was set at this value because this analysis is exploratory in nature and did not need very stringent inclusion levels. The 78 items from the regression analysis were then entered into a discriminant analysis that computed a set of discriminant coefficients that classified batterers and nonbatterers into discriminant groups.

Table 4.1

Summary Table for Regression Analysis and Discriminant Analysis for MMPI Items

				Discriminant Coefficients		
Item	F-to enter	Prob >F	Canonical R^2	Non-Batterer	Batterer	Standard Coefficients
249	32.368	.0074	.2689	-342.9421	426.9173	8.7839
383	20.104	.0001	.4061	206.9077	-39.8491	-2.8589
294	12.387	.0007	.4809	336.9202	-348.5634	-7.6809
102	8.727	.0041	.5292	160.4177	-134.1689	-3.1936
121	9.657	.0026	.5777	-565.3473	620.6893	8.6120
241	11.172	.0012	.6278	193.3420	-90.3110	-3.1784
326	11.639	.0010	.6741	-746.8445	620.1595	8.8613
185	9.887	.0023	.7483	-214.3834	327.5436	4.6110
260	5.737	.0190	.7653	-265.6365	161.5630	4.9134
53	6.960	.0101	.7855	-148.4796	75.9140	1.5456
87	7.463	.0078	.8036	-140.8528	202.0689	1.9012
32	8.123	.0056	.8225	-56.7189	287.5022	2.7289
226	6.823	.0109	.6373	204.8127	-122.4972	-3.9257
280	9.512	.0029	.8559	198.4941	-194.8210	-4.7174
208	5.763	.0189	.8664	-64.7963	-5.3438	.6964
355	6.677	.0118	.6777	233.80566	-187.9446	-2.5463
361	5.831	.0183	.6870	-123.0707	200.8807	3.8727
63	7.154	.0093	.8975	-87.1889	-5.3438	.6964

Table 4.1--continued

				Discriminant Coefficients		
Item	F-to enter	Prob >F	Canonical R^2	Non-Batterer	Batterer	Standard Coefficients
371	7.165	.0093	.9071	-33.1574	--103.7348	-0.8533
380	5.501	.0219	.9141	231.9516	6.2736	-1.9202
323	5.322	.0242	.9204	310.0241	-234.4889	-5.1145
20	6.560	.0127	.9276	-177.2703	230.6832	3.8649
39	5.861	.0183	.9336	-188.7753	16.6073	2.4849
172	6.566	.0128	.9397	306.4687	-187.4208	-5.4780
240	6.582	.0127	.9454	175.1266	39.8346	-1.4283
54	9.152	.0036	.9524	514.6036	-172.3668	-3.8087
43	8.305	.0055	.9591	89.5998	130.8792	.3621
248	7.212	.0094	.9626	89.6397	-178.4264	-3.2369
122	7.825	.0069	.9670	317.7611	-81.6204	-2.5889
399	7.660	.0076	.9708	7.7582	-3.7404	-0.1312
206	4.316	.0423	.9761	-114.5906	-32.2873	.7788
201	5.539	.0222	.9783	-136.5723	-111.5780	.2988
259	6.354	.0147	.9806	157.4953	-47.9164	-2.1685
38	10.882	.0017	.9839	62.9775	-54.4847	-1.4184
358	5.754	.0201	.9855	-119.2315	17.3394	1.2638
58	7.328	.0092	.9873	-76.3310	22.0723	1.1906
68	7.800	.0074	.9890	-206.6576	25.9351	2.4194
100	6.852	.0117	.9904	126.4360	42.6898	-1.0044
332	8.933	.0044	.9919	-159.7439	394.0396	5.4700

Table 4.1--continued

				Discriminant Coefficients		
Item	F-to enter	Prob >F	Canonical R^2	Non-Batterer	Batterer	Standard Coefficients
374	6.428	.0145	.9927	159.8517	-181.5435	-3.5511
327	6.445	.0145	.9935	43.8420	-149.7156	-2.1688
360	7.068	.0108	.9944	-162.2229	-171.4682	-0.0402
142	7.458	.0090	.9952	-76.8607	-12.2152	.7806
103	7.004	.0112	.9958	27.0874	146.6566	.9838
319	8.762	.0050	.9965	-31.3949	134.8982	2.0105
379	11.963	.0013	.9973	23.1619	-48.4309	-0.7447
112	5.372	.0257	.9980	-21.4011	219.2858	1.5602
372	6.130	.0177	.9982	58.6849	-93.7845	-1.8379
317	6.395	.0158	.9987	-230.7097	148.8472	4.5752
362	5.216	.0284	.9989	215.5175	-128.7639	-4.1623
128	3.778	.0600	.9990	23.8243	65.5827	.4581
29	5.346	.0270	.9991	111.1261	-238.9414	-0.0034
353	3.599	.0666	.9992	-47.8112	132.4968	-0.0056
165	6.014	.0198	.9993	-40.5515	197.9026	.0009
134	7.773	.0090	.9994	-31.1267	108.0365	-0.0011
344	7.409	.0107	.9995	-116.8387	-96.6301	-0.0015
289	11.552	.0020	.9997	14.4715	-107.3591	-0.0034
269	7.829	.0090	.9997	-97.4050	-80.7679	-0.0003
396	5.726	.0234	.9997	7.2008	96.3411	-0.0147
192	7.269	.0119	.9998	40.5094	511.3811	-0.0044

Table 4.1--continued

Item	F-to enter	Prob >F	Canonical R^2	Discriminant Coefficients Non-Batterer	Discriminant Coefficients Batterer	Standard Coefficients
31	8.394	.0075	.9999	55.6708	-538.7633	.0028
77	7.369	.0118	.9999	-69.8498	-57.3798	.0080
245	7.108	.0135	.9999	45.1864	-55.6364	.0040
90	8.494	.0080	.9999	-11.9280	-106.8223	-0.0062
6	13.197	.0016	.9999	14.0788	151.9127	-0.0054
181	8.608	.0082	.9999	-92.7132	-111.0451	-0.0054
70	10.081	.0050	.9999	77.6794	-96.1951	-0.0034
203	9.803	.0058	.9999	31.9876	-132.4518	-0.0091
300	12.299	.0027	.9999	13.8836	45.3542	.0036
391	11.864	.0029	.9999	-74.7818	-45.5408	-0.0088
299	16.025	.0009	.9999	-5.7551	-91.0007	-0.0009
284	12.508	.0027	.9999	87.9975	-96.6470	.0159
397	18.994	.0006	.9999	80.2211	49.3319	-0.0079
252	8.669	.0107	.9999	122.8977	20.1808	.0061
129	13.549	.0008	.9999	74.0568	49.3394	.0077
204	15.963	.0003	.9999	61.3079	-18.6569	-0.0121
350	15.786	.0022	.9999	19.0034	334.2870	.0027

*Constant: Nonbatterers = -688.9942,

Batterers = -589.1771

Table 4.2 shows the results of that analysis and reveals that there was 100% correct classification for each group. The D^2 had a value of 1726.1735. Keep in mind that D^2 is the squared distance between means of the standardized value of Z. The coefficients for each item are listed in Table 4.1.

Table 4.2

Classification Summary for Calibration of MMPI Items

	Nonbatterer		Batterer	
Group	No.	Percent	No.	Percent
Nonbatterer	34	100	0	0
Batterer	0	0	56	100

As stated in an earlier discussion, the coefficients for each item can be thought of as the weight of each item relative to all the other items. In interpreting the coefficients it is important to note the sign of each coefficient. If it is positive, then individuals with larger values of this variable tend to belong to the batterer group and individuals with lesser values of that item tend to belong to the nonbatterer group.

For example, in Table 4.1 MMPI item 294 has a coefficient equal to 336.920 for the batterer group. Individuals who tend to answer this item in the negative tend to be batterers. This item is "I have never been in trouble with the law." Therefore, batterers would tend to have greater value of this coefficient. However, keep in mind that it is not the value of one item that places a batterer in a group, but the linear weighted combinations of items.

This linear combination of items is calculated by taking each subject's score for each item, multiplying it by its corresponding discriminant coefficient, and then adding it to all the other weighted scores. The result is a Z value for each person. This value is then compared to the D^2 value and if it is greater than D^2, the subject is classified into the batterer group. If the Z value is less than the D^2 value, then the subject is classified as a non-batterer. In this way the discriminant analysis, using the 78 items' coefficients and the individual responses to these items, classifies each individual.

Table 4.1 also lists the standardized coefficients for each selected item. With the standardized coefficient an impression of the relative effect of each item can be obtained. For example, as seen in Table 4.1, the MMPI item 326 has a standardized coefficient of 8.8613 while item 361 has a standardized coefficient of 3.8727. This means that item 326 has a greater effect in discriminating between groups than item 361.

Appendix E lists the content of each MMPI item that was selected along with the scoring direction for batterers.

Stepwise Regression Analysis and Discriminant Analysis for the CPI

In this analysis 480 items were used from the CPI with a sample of 41 subjects. Twenty-six were batterers and fifteen were nonbatterers. The same statistical analysis used with the MMPI was used with the CPI. First, a stepwise regression was done to explore items for inclusion in the model. These items, listed in order of inclusion into the model, as well as the F-to enter value and its corresponding probability level, are listed in Table 4.3. This analysis extracted 34 CPI items that accounted for 99.44% of the variance in the regression model. These 34 CPI items were then subjected to a discriminant analysis.

Table 4.3

Summary Table for Regression Analysis and Discriminant Analysis for CPI Items

				Discriminant Coefficients		
Item	F-to enter	Prob >F	Canonical R^2	Non-Batterer	Batterer	Standard Coefficients
212	26.776	.0001	.4070	449894659	-69462353	4221.86
278	19.250	.0001	.6981	-188377150	29084894	-4221.86
180	11.247	.0019	.6981	214978540	-33192021	3819.86
109	10.432	.0026	.7659	153334077	-23674280	3046.12
35	10.719	.0024	.8208	67956867	-10492342	1350.02
41	8.433	.0064	.8564	-95867229	14801646	-2148.55
209	11.483	.0018	.8935	-89875995	13876596	-2009.48
165	8.388	.0068	.9156	-75829801	11707898	-1279.32
132	7.191	.0116	.9315	245730672	-37940012	3269.2
453	9.591	.0042	.9481	-122202549	18867689	-1699.36
78	12.886	.0012	.9640	197823645	-30543350	4206.05
65	5.943	.0214	.9703	-125617739	19394975	-1990.73
60	8.293	.0077	.9773	-161757571	24974870	-2563.45
44	14.280	.0008	.9853	74654205	-11526385	1673.13
350	7.837	.0097	.9888	152479108	-23542316	1472.68
193	12.204	.0019	.9926	-17875617	2759907	-399.668
274	10.723	.0033	.9949	-44899260	6932346	-864.512
1	8.673	.0075	.9963	-49972478	7715592	-1042.64

Table 4.3--continued

Item	F-to enter	Prob >F	Canonical R^2	Non-Batterer	Batterer	Standard Coefficients
228	8.978	.0069	.9974	-31891441	4923957	-688.743
414	8.275	.0093	.9982	-52760114	8146040	-701.92
96	11.370	.0032	.9988	18980454	-2930519	365.4586
122	12.624	.0023	.9993	24992763	-3858778	496.5028
155	18.001	.0005	.9996	14488533	-2236999	316.8879
341	8.968	.0086	.9997	-9514442	1469006	-150.78
347	10.461	.0056	.9998	9954004	-1536878	221.4875
222	11.443	.0045	.9999	-3975107	613758	-76.5388
171	9.009	.0102	.9999	-7872939	1215554	-167.392
407	9.620	.0092	.9999	11623765	-1794655	135.7218
468	21.871	.0008	.9999	3137537	-484445	62.3303
399	21.042	.0012	.9999	4583275	-707619	97.4475
14	22.113	.0011	.9999	1456638	-224887	32.6455
472	14.698	.0050	.9999	-2207163	340744	-46.0500
299	65.048	.0001	.9999	951653	-146923	15.0812
420	18.644	.0050	.9999	243329	-37573	5.1736

*Constant: Nonbatterers = -254932086.54658,

Batterers = -6077239.4248

Table 4.4 shows that there was 100% correct classification for subjects with these 34 items. The D^2 value for this analysis is 679461339.4825610. The coefficients for each selected CPI item is listed in Table 4.3 along with their standardized coefficients.

Table 4.4

Classification Summary for Calibration of CPI Items

	Nonbatterer		Batterer	
Group	No.	Percent	No.	Percent
Nonbatterer	15	100	0	0
Batterer	0	0	26	100

Appendix F lists the content of the CPI items that were selected along with scoring direction for batterers.

It is notable that there are much fewer items selected from the CPI than from the MMPI. At this point it is not possible to determine if this is due to a small sample size or the inability of more items to discriminate between groups.

Cross Validation by the Jackknife Method

The ideal method of cross validation is to derive a function for a set of items from one sample and then apply it to another sample to obtain an idea of the percentage of individuals correctly classified. As explained in the methodology section, this was not possible in this study because of the small sample size. The jackknife procedure is an alternate method that was used in this study. This procedure uses the prior probability of P = 0.05 or the probability that each subject is equally likely to come from either group.

MMPI Jackknifed Cross Validation

The results of the statistical cross validation of selected MMPI items is shown in Table 4.5. There were 90 cases included in the analysis. The table shows that 100% of each group were correctly classified using the 78 MMPI items selected by discriminant analysis. Table 4.6 reports each subject's canonical vectors which were used as coordinates when plotting each subject's discriminant function. The mean coordinates for each group are also reported. Individuals whose canonical vectors fall closer to -19.21 were classified into the batterer group and individuals whose scores are closer to 31.65 were classified into the nonbatterer group. The degrees of freedom are 1, 89, and the approximate F statistic is 507.684.

Table 4.5

Jackknifed Classification for MMPI Items

Group	Nonbatterer No.	Nonbatterer Percent	Batterer No.	Batterer Percent
Nonbatterer	34	100	0	0
Batterer	0	0	56	100

Table 4.6

Canonical Vectors* for MMPI Items

Group	Case	Can. V	Case	Can. V	Case	Can. V
Nonbatterer	57	28.88	69	32.02	80	30.91
	58	30.72	70	32.20	81	31.76
	59	30.95	71	29.52	82	31.51
	60	32.33	72	29.67	83	32.21
	61	28.45	73	31.52	84	31.97
	62	32.13	74	32.38	85	30.49
	63	31.33	75	32.87	86	32.07
	64	31.65	76	32.17	87	31.05
	65	32.04	77	32.33	88	32.16
	66	31.40	78	35.13	89	32.69
	67	31.79	79	33.46	90	32.07
	68	32.16				

Table 4.6--continued

Group	Case	Can. V	Case	Can. V	Case	Can. V
Batterer	1	20.04	20	18.49	39	20.38
	2	19.19	21	19.93	40	19.74
	3	20.68	22	19.25	41	18.68
	4	21.57	23	18.63	42	18.83
	5	18.36	24	19.02	43	19.47
	6	17.84	25	19.49	44	19.69
	7	18.64	26	18.75	45	18.23
	8	20.16	27	19.15	46	18.18
	9	18.92	28	19.09	47	19.46
	10	18.53	29	19.58	48	19.07
	11	17.71	30	19.74	49	18.46
	12	19.76	31	18.80	50	18.42
	13	20.24	32	18.60	51	20.12
	14	19.67	33	19.28	52	18.61
	15	19.70	34	19.86	53	19.33
	16	19.42	35	18.22	54	20.11
	17	18.98	36	17.51	55	17.81
	18	19.42	37	19.67	56	20.13
	19	19.02	38	20.36		

*Mean Coordinates:

Nonbatterers = 31.65, Batterers = -19.21

CPI Jackknifed Cross Validation

The results of the cross validation of selected CPI items are shown in Table 4.7. There were 41 cases used in the analysis. Table 4.8 includes the canonical vectors for each subject and the means of the vectors for each group. Those subjects with vectors nearer 21.32 were classified as nonbatterers and those subjects with vectors nearer -12.30 were classified as batterers.

Table 4.7

Jackknifed Classification for CPI Items

	Nonbatterer		Batterer	
Group	No.	Percent	No.	Percent
Nonbatterer	15	100	0	0
Batterer	0	0	26	100

Table 4.8

Canonical Vectors* for CPI Items

Group	Case	Can. V	Case	Can. V	Case	Can. V
Nonbatterer	1	21.26	6	21.48	11	20.54
	2	21.42	7	22.27	12	20.36
	3	20.67	8	22.48	13	21.57
	4	21.49	9	20.14	14	21.45
	5	21.57	10	21.33	15	21.82
Batterer	16	-10.53	25	-15.61	34	-11.75
	17	-11.33	26	-11.37	35	-12.03
	18	-10.67	27	-11.27	36	-12.22
	19	-14.43	28	-12.93	37	-11.91
	20	-13.08	29	-11.82	38	-12.87
	21	-12.31	30	-12.45	39	-10.94
	22	-12.59	31	-13.16	40	-13.99
	23	-12.09	32	-11.33		
	24	-12.07	33	-12.40		

*Mean Coordinates:

Nonbatterers = 31.65, Batterers = -19.21

In summary, it appears that the 78 MMPI items and the 34 CPI items selected by discriminant analysis are excellent variables for correctly classifying batterers. However, it must be kept in mind that this result is limited to the batterers in this study. This analysis has derived a set of discriminant coefficients for the items on each inventory that can be used to classify individuals who are court referred batterers. The greater the value of the Z function, the more likely it is that the individual is a batterer.

Chi Square Analysis for the MMPI Items

The results of the chi square analysis of the 400 MMPI items for 90 subjects reveal that there are 26 items that batterers endorsed more frequently than nonbatterers (P = 0.006) Table 4.9 lists the items, the chi square values, and the direction of response for batterers and Appendix H lists the content of MMPI items. It is notable that although there are some items from the chi square analysis that are congruent with the discriminant analysis, many are different. Certainly, those with the highest F-values are congruent. Further explanation of these results will be left to the Discussion section.

Table 4.9

Chi Square Analysis* of Significant Discriminating MMPI Items

Items	Chi Square Value	Batterer Response
1	8.554	T
5	9.664	T
58	14.063	T
67	9.506	T
89	7.560	T
94	11.348	T
98	17.431	T
99	8.512	T
101	10.066	T
106	7.608	F
137	7.677	T
173	7.648	T
223	13.277	T
249	24.202	T
255	7.560	F
258	16.207	T
262	10.741	T
284	8.579	T
294	12.150	F
320	10.126	F
365	8.407	F

Table 4.9--continued

Items	Chi Square Value	Batterer Response
378	8.407	F
383	13.498	T
396	7.412	T
398	8.229	F

*$p \leq .006$ D.F. = 1 N = 90

Chi Square Analysis of the CPI Items

The results of the chi square analysis of the 480 CPI items for 35 subjects reveal that 9 items were endorsed more frequently by batterers than nonbatterers ($p = 0.006$). Table 4.10 lists the items, the chi square value, and the direction of response of the batterers and Appendix I lists the content of each item. Once again, as with the MMPI items, the items extracted from the chi square analyses are not congruent with the items derived from the discriminant analyses. In addition, the chi square analysis resulted in fewer CPI items than MMPI items. It is not possible at this point to state whether this result is due to small sample size or the inability of the CPI items to good classifiers of batterers. Setting the significance level at $P = 0.006$ also may have been a factor in fewer items being selected. Certainly, if the p = 0.01 level was used for selection as MacAndrews (1963) did in his Alcoholism Scale, more significant items would have been found.

Table 4.10

Chi Square Analysis of Significant Discriminating CPI Items

Item	Chi Square Value	Batterer Response
34	9.870	T
49	13.350	F
165	8.782	T
210	7.842	T
212	16.690	F
250	9.899	F
278	13.589	T
334	7.596	F
344	9.899	F

$p \leq .006$ D.F. = 1 N = 41

In summary, 26 items from the MMPI and 9 items from the CPI were selected by chi square analysis (p = 0.006) as possible items for inclusion in a classification instrument for batterers. No further analysis was done on these items at this time; however, discussion of this decision will be deferred to the Discussion section.

Demographic Data

All demographic data were transformed so that coding data could be more manageable. Continuous demographic data were broken down into ranges and then assigned a numerical code and all categorical data were given a numerical code. Appendix G lists the numerical code equivalents for each variable. For example, a subject who is white, 24 years old, makes $12,000 per year, is married, and has a high school education would be coded as 01 for white, 02 for 21-25 year old age range, 02 for $10,000-$15,000 income range, 01 for marital status, and 02 for 12 years of education range. In this study, age, income,, and education were divided into levels before the analysis.

The data reveal that the mean age range for batterers and nonbatterers is 26-30 years. However, the batterer group appears to have more males in the upper age range (closer to 30) than the nonbatterers. Most men in both groups are white and there are more married men in the batterer group than in the nonbatterer group. Most batterers are high school educated while most nonbatterers have some college education or have a college degree. The mean income for both groups is $0-$10,000 with the nonbatterers tending to have income more toward the $10,000 end of the range.

Demographic results presented in tables are given in frequencies and percentages. Income, age, and education are given in levels of ranges. Marital status and race are given as categories and not levels. Table 4.11 reports the frequencies of age level for batterers and nonbatterers.

Table 4.11

Table of Age by Group

	Group			
	Batterer		Nonbatterer	
Age Level	No.	Percent	No.	Percent
18-20yrs.	2	4	0	0
21-25 yrs.	10	18	20	57
26-30 yrs.	19	33	5	14
31-35 yrs.	8	14	1	3
36-40 yrs.	8	14	4	11
41-45 yrs.	4	7	3	9
46-50 yrs.	2	3	0	0
51-55 yrs.	2	4	1	3
55> yrs.	2	4	1	3

There are nine age levels. This data reveal that the most frequent age range for batterers is 26-30 years old and for nonbatterers it is 21-25 years old. As the age levels increase, the inequity between groups evens out. Overall data indicate that the mean age range is 26-30 years for both groups.

Table 4.12 reports the frequency of income level for both groups. There are six income levels. The most frequent income range for batterers and nonbatterers is $0-$10,000. Inspection of the other levels does not reveal any striking differences between groups.

Table 4.12

Table of Income* by Group

	Group			
	Batterer		Nonbatterer	
Income Level	No.	Percent	No.	Percent
0	1	1.75	0	0
1-10	23	40	17	49
11-15	16	28	4	11
16-20	6	11	6	17
21-30	10	18	6	17
31-35	0	0	1	3
36>	1	2	1	3

*Given in $1,000s

Table 4.13 reports the frequency of education level for both groups. There are four education levels. These results reveal that the most frequent education level for batterers is 12 years of education while for nonbatterers it is the 13-16 year range of education. In addition, 26% of the batterers have no high school education while there are no nonbatterers without a high school education. Mean education levels reveal that most batterers tend to have a high school education or less and most nonbatterers tend to be high school graduates with some college education.

Table 4.13

Table of Education* by Group

	Group			
	Batterer		Nonbatterer	
Education Level	No.	Percent	No.	Percent
<11 yrs.	15	26	0	0
12 yrs.	27	47	5	14
13-16 yrs.	12	21	28	80
17>	3	5	2	6

*Given in number of years of education

This finding appears to be quite disparate and warranted further analysis. A discussion of the post hoc test results for education level will be discussed in a later part of this section.

Table 4.14 reports the frequency of racial category. There are three categories. This table reveals that the batterer group has slightly more blacks than the non-batterer group. However, the differences do not appear to be significant.

Table 4.14

Table of Race by Group

	Group			
	Batterer		Nonbatterer	
Race	No.	Percent	No.	Percent
White	40	70	28	80
Black	17	30	6	17
Other	0	0	1	3

Table 4.15 reports on the frequency of marital status. There are three categories. Inspection of data reveals that there are considerably more married men in the batterer group than in the nonbatterer group. A discussion of this result will follow in the Discussion section.

Table 4.15

Table of Marital Status by Group

	Group			
	Batterer		Nonbatterer	
Marital Status	No.	Percent	No.	Percent
Married	44	77	10	29
Single	8	14	22	63
Divorced	5	9	3	9

In summary, the demographic data reveal that the groups are fairly well matched on age, income, race, but not for education level and marital status. Post hoc tests were done on education level but not on marital status. There is no evidence in the literature that would lead one to believe that marital status may play a differential role in discriminating between groups and therefore, post hoc tests were not done.

Post Hoc Tests for Education Level

Even though the MMPI and CPI items appear to do an excellent job in statistically classifying batterers, inspection of the frequencies of education level leads one to suspect that there is yet unanswered questions. Is education also a significant variable in classifying batterers? Are there college educated nonbatterers who respond in a different way to the questions on the MMPI and CPI so that education factors may account for statistically more variance between groups than selected items on the MMPI and CPI? Several post hoc tests were done to determine the answer to these questions. Unfortunately, the sample size for CPI respondents was too small to use in an analysis. Therefore, only the MMPI results are used with the post hoc test.

A multivariate analysis of variance (MANOVA) and discriminant analysis were done to determine if education had a differential effect between groups. The MANOVA was done on the entire set of 400 MMPI items by education and group. Ninety subjects were used in the analysis and there were four levels of education and two groups. The results of the MANOVA are shown in Table 4.16. These results reveal that there are 13 significant items interactions between education and group ($p = 0.05$). However, by chance alone, one can expect to have 20 significant items at $p = .50$. Therefore, the results show that education had no greater effect on selection of items than one would expect by chance alone.

Table 4.16

MANOVA for MMPI Items by Education Level and Group

Item	Mean	F*
14	0.4517	3.73
41	0.8575	5.05
64	0.9998	4.31
73	0.5573	4.43
166	0.9715	4.16
247	0.3803	2.95
253	0.8807	3.80
298	0.6899	3.26
327	0.7282	3.52
331	0.0883	3.05
359	0.5522	3.07
360	0.1235	4.36
381	0.7857	3.29

*$p \leq .05$ D.F. = 3,1

Following the MANOVA, two separate discriminant analyses were done. In the first analysis, education level one was not used because of there were no subjects in the nonbatterer group, and no analysis could be done between this education level and other levels. This analysis used education level one's discriminant coefficient values for selected items to calibrate and classify the other levels of education. This was done using each level's discriminant coefficients. Table 4.17 is a summary table showing the percent of subjects correctly classified for each education level based on the discriminant coefficient of a specific education level. The values in the cells are the percentages of subjects in that education level that were correctly classified. An example will help to understand Table 4.17. On the vertical axis of the table are the education levels whose discriminant coefficients were used to classify the other education levels. The horizontal axis of the table represents the education levels that were classified. For example, the discriminant coefficient from education level 3 was used to classify education level 2, and 81% of the individuals were correctly classified. When education level 3's coefficients were used to classify level 4, 75% of the individuals were correctly classified, and so on. In essence, although there are some poor classifications when education level is used, the sample sizes are so small for each level one would expect some discriminant coefficients to be poor estimators and therefore, have misclassifications. One can not say whether the misclassifications are due to sample size or differential effects of education. However, it is important that when the sample size increases, so does the accuracy of classification. It may be that if larger samples were available, better classification could be had from the selected MMPI items.

Table 4.17

Summary Table of Groups Classified by Discriminant Analysis

	Test Group		
Discriminant Coefficient Group	2	3	4
2	100%	95%	75%
3	81%	100%	75%
4	28%	74%	75%

An additional discriminant analysis was done in order to try an alternate method of classification. In this analysis all but one education level was used to obtain the discriminant coefficients and then these coefficients were used to classify the subjects left out. Once again, education level was left out of the classification but it was used in deriving coefficients. Table 4.18 shows that when education levels 1, 3, and 4 were used to classify education level 2, 60% of the nonbatterers were correctly classified while 70% of the batterers were correctly classified. Table 4.19 shows that when education levels 1, 2, and 4 were used to classify level 3, 74% of nonbatterers were correctly classified and 83% of the batterers were correctly classified. Finally, when education levels 1, 2, and 3 were used to classify level 4, Table 4.20 shows that

Table 4.18

Classification of Group 2 from Groups 1, 3, and 4 by Discriminant Analysis

	Nonbatterer		Batterer	
Group	No.	Percent	No.	Percent
Nonbatterer	3	60	2	40
Batterer	8	30	19	70

Table 4.19

Classification of Group 3 from Groups 1, 2, and 4 by Discriminant Analysis

	Nonbatterer		Batterer	
Group	No.	Percent	No.	Percent
Nonbatterer	20	74	7	26
Batterer	2	17	10	83

100% of the nonbatterers were correctly classified and 100% of the batterers were correctly classified.

Table 4.20

Classification of Group 4 from Group 1, 2, and 3 by Discriminant Analysis

	Nonbatterer		Batterer	
Group	No.	Percent	No.	Percent
Nonbatterer	2	100	0	0
Batterer	0	0	2	100

Table 4.21 presents summary data based on the entire classification of the three groups. The N refers to number of subjects used to derive the discriminant coefficients. For education level 2, 69% were correctly classified based on a N of 32. Fifty-eight individuals out of 90 were correctly classified. For education level 3, 77% were correctly classified based on an N of 39. Fifty-one individuals out of 90 were correctly classified. Lastly, for education level 4, 100% were correctly classified based on an N of 7. Eight-six individuals were correctly classified.

Table 4.21

Classification of One Education Level using Discriminant Coefficients from Other Education Levels

Education Level	Percent Classified	N	Number Classified
2	69	32	58
3	77	39	51
4	100	7	86

In summary, post hoc tests indicate that education does not appear to contribute significantly to the variance between groups. However, the sample sizes are small and these results must be considered somewhat tentative. Three different analyses were done using education as a possible discriminating factor and none of the analyses gave firm evidence that would lead one to conclude that education contributed more to the classification than 78 selected MMPI items. In fact, one can say with some confidence that with a larger sample the 78 MMPI items would do a much better job of correctly classifying individuals as batterers or nonbatterers.

It appears that the results of the overall analyses, both chi square and discriminant analysis, show that there are items from the MMPI and CPI that can be used to correctly classify batterers with a large degree of confidence.

CHAPTER V
DISCUSSION

The literature indicates that researchers have not attempted to develop a usable clinical assessment instrument to classify batterers. Therefore, the main purpose of this study was to develop a batterer subscale on the MMPI or CPI that would classify batterers with a high degree of accuracy. Empirical test development methods were used to select items for the subscale. Two distinct statistical analyses were used in the selection process.

Items Derived from the Discriminant Analysis

The results of the discriminant analysis did indeed select a set of 78 items from the MMPI and 33 items from the CPI that provided a high degree of discriminability between groups. The discriminant analysis correctly classified 100% of each group with each personality inventory. The results indicate that the selected items would make up a subscale that would be a useful assessment instrument for identifying batterers in the general population. The standardized coefficients derived from the discriminant analysis can be converted to standard scores by a simple z score transformation and then used with the MMPI's or CPI's standardized profile system.

An analysis of previous studies indicates that the assessment of batterers is based on a body of knowledge that is made up mostly of clinical descriptions of batterers. These descriptions are, in large part, victim accounts and case studies. Essentially, most professionals are using a set of personality characteristics to identify batterers that have vague and non-quantitative foundations. Also, it is accepted practice in most batterer treatment programs to assume that a man is a "batterer" simply because he was arrested or adjudicated for battering. The treatment programs assume that being a batterer is a dichotomous decision based on victim testimony. They do not take into account the possibility of degrees of battering or types of batterers. Furthermore, the present methods of assessment are not able to identify those men who may be potential batterers or whose battering goes unreported. In essence, the present methods of assessing batterers may result in making errors that give many false positive identifications of batterers or that frequently miss the identification of batterers. With the pilot assessment instrument that was developed in this study, a method has been devised that will classify and identify batterers with a high degree of reliability and accuracy.

There are several issues that need to be discussed concerning these scales. First, it is readily apparent that there are many more MMPI items selected than CPI items. Also, in a cursory look at all MMPI items, it is apparent that more batterers than nonbatterers selected pathological items on the MMPI. A look at the frequency of responses of a few critical items on the MMPI for both groups will help to illustrate this point. On item no. 24, "No one seems to understand me," 32% of the batterers answered true while 9% of the nonbatterers answered true. On item 48, "When I am with other people, I am bothered by hearing very queer things," 20% of batterers answered true while 6% of the nonbatterers answered true. On item 86, "I am certainly lacking in self-confidence," 30% of the batterers answered true while 9% of the nonbatterers answered true. On item 106, "Much of the time I feel as if I have done something wrong or evil," 12% of the batterers answered true while 0% of the nonbatterers answered true. Last, on item 121, "I believe I am being plotted against," 16% of the batterers answered true while 0% of the nonbatterers answered true. From this sample of items it is evident that more pathological items are being endorsed by batterers than nonbatterers. From these data it appears that there may be more pathology in the batterer group. However, an alternate explanation for this effect is the judicial process itself. That is, it may be that men going through the court system may feel depressed and plotted against as a result situation regardless of their charges. A study using a comparison group of "generic" defendents would address this question.

Thus, if one considers that more items were selected on the MMPI by batterers than on the CPI and there were more pathological items selected by batterers, then it would seem that the MMPI is a more useful assessment instrument for this population. Even though both the MMPI and CPI classified 100% of the batterers correctly, the MMPI would make a better instrument in screening batterers because it appears to be a more valid instrument for that population. In addition, the MMPI is more widely used than the CPI, making it a more available instrument. However, the CPI is used in college settings and it may be that other researchers may wish to follow up the refinement of the CPI scale for application on college campuses.

In summary, although both MMPI and CPI performed well in classifying batterers, the MMPI appears to be the most feasible instrument to use for further research and identification of male batterers.

Chi Square Derived Items

The chi square analysis resulted in the selection of 26 MMPI and 9 CPI items. Except for a few items on each subscale (see Appendix J), the two statistical analyses (chi square and discriminant analysis) resulted in the selection of distinctly different items. This may be attributable to the statistical procedure. That is, in the chi square analysis, item selection was based on the frequency of responses from each group and the probability level by which one selects items. In contrast, the items derived from the discriminant analysis were selected based on their weighted contribution in the total discriminant model. In other words, an item selected by the chi square analysis had no influence on the other items selected. Whereas, in the discriminant analysis, it was not just one item that was a discriminator but the whole selection of items. Therefore, many of the chi square items may have been redundant or insignificant and thus, not selected by the regression model. Hence, it is not surprising that there is not more commonality between the items selected by different analyses.

Another factor contributing to fewer items being selected by the chi square analysis was the high significance level ($p = 0.006$) that was chosen for item inclusion. MacAndrews (1963) used $p = 0.01$ for his alcoholism scale and found 64 items that were significant. Undoubtedly, if this study had used the $p = 0.01$ level, many more items would have been selected.

The construction of a subscale using the chi square analysis stopped at the selection stage because the next step was cross validation which was not feasible in this study. It was not possible to split the original sample and a larger sample could not be obtained at this time. Therefore, the logical next step is a follow-up study that would cross validate the items from the chi square analysis.

In summary, both the chi square analysis and the discriminant analysis selected items that were good discriminators for the construction of a subscale for batterer classification. However, only the discriminant analysis items were subjected to cross validation. It would be important to validate the items from the chi square analysis on another sample of court referred batterers. In addition, comparing the two sets of items from different methods of analysis and determining which set performed better when classifying batterers would further refine the development of the batterer scale.

Demographic Results

The batterers and nonbatterers were matched for age, income, education, marital status, and race. Frequency tallies indicated that the matching was adequate except for education and marital status. For education, the nonbatterers had considerably more subjects with at least some college education or a college degree than the batterers. Also, the batterer group had 15 subjects without a high school education, but all the subjects in the nonbatterer group had at least a high school education. Although the nonbatterer group is better educated, the post hoc test results indicate that education may have a small effect in classifying groups. However, there is evidence that the more subjects in a cell, the more accurate the classification. That is, it may be that if there were more subjects in both groups, the MANOVA may have found a consistent result indicating no effect for education. In addition, the literature indicates that education has not been found to be a significant variable related to batterers. Income and race are the only two demographic variables that are associated with batterers. That is, more batterers tend to be black and to be in the lower income brackets. In this study there was adequate matching between groups on income levels and racial group. Thus, with the confirmatory results of no effect of education from the post hoc tests and, with support from the literature, it can be said that the educational level disparity between groups does not have a significant effect on the outcome of this study.

Frequency results indicate that there were considerably more single men in the nonbatterer group than in the batterer group. However, no post hoc tests were done for marital status because the literature does not indicate that single men differ in their battering behavior than married men. In fact, the only data reported in the literature on marital status is the frequency of married, single, and divorced batterers. Straus et al. (1980) reported that batterers are comprised of 60% married men and 40% single or divorced men. There are no studies reported that investigate the difference between married batterers and nonmarried batterers. Consequently, there are no data that would lead this researcher to believe that a man's personality characteristics change when he is married to a woman, as opposed to cohabiting with a woman or dating a woman. Indeed, having a woman available to batter does make it easier to batter for many reasons but there is no reason to believe, at this point, that being married is a causal effect in determining personality traits in batterers. However, this may be an interesting area for future research.

The demographic profile of the batterer derived from Straus, Gelles, and Steinmetz's study of 2143 families is that of a 26-35 yr. old black male who is a high school graduate and is making $6000 or less (1980). The demographic profile for the batterers in this study is that of a white male, 26-30 yrs. old who is high school educated and is making $0-10,000 (1987). This study's profile matches the Straus et al. profile except for race. It may be that fewer black men than white men were referred for treatment in the sample of treatment programs which were used in this study.

In summary, adequate control in the methodology was established by matching the group on several demographic variables. When one looks at the literature for MMPI subscale construction, it appears that no other study has matched their subjects on as many demographic variables as does this study. In fact, the matching made it difficult to gather a larger sample. Perhaps this explains why there are no studies that matched for all these variables. One can conclude that the subjects in this study were adequately matched and correspond on most demographic variables to a national sample of batterers. Future researchers may want to match more carefully for education and marital status.

Conclusions

It appears that the research reported here has provided items that comprise a pilot assessment instrument by which court referred batterers can be classified with a high degree of accuracy. The most important conclusion that can be drawn from the results is that this pilot instrument has opened the way for an impressive body of future research.

The batterer subscale on the MMPI provides a quantifiable criteria by which batterers can be identified. This enables the batterer criteria to be used in correlation with other assessment instruments. For example, for each population under study a correlation matrix could be calculated between the batterer scale and another indicator instrument. The pattern of association between instruments could be determined. From this pattern would come theoretical insight about the psychological variables under study. The same method would apply when different populations are compared. In summary, for the first time batterers have been described with quantifiable variables.

Implications

Although this research can be considered a pilot study, the data it provides has considerable implications for research. Besides cross validating the chi square analysis items and refining the 78 item assessment instrument, there are a series of studies that can be done that would give important information. In essence, this scale has provided the ground work for many correlational studies. It would be important to determine if the batterer scale correlates with other scales on the MMPI. For example, there may be a strong correlation with the depression scales as indicated by the Mauiro et al. (1988) study. Correlational studies with psychological variables such as locus of control, self-esteem, sex roles, and hostility would be very interesting and would enable refinement of many studies that are already done.

Additionally, this instrument provides reliable classification of court referred batterers. It would be important to cross validate this instrument on other groups of batterers. For example, it may be that court referred batterers respond differently to certain items than do self-referred batterers. This would be an interesting focus of research because it may be that there are different types of batterers. This knowledge may lead to the tailoring of specific treatments to specific types of batterers.

The literature indicates that a large percentage of batterers use alcohol. An interesting research question would be to determine if alcoholic batterers are different than nonalcoholic batterers. It is commonly believed that alcohol disinhibits control and is a contributing factor in battering. However, those batterers who do not drink and still batter may have different contributing factors that lead to battering. Correlating the batterer scale and the MacAndrews alcohol scale with measures of other psychological variables may lead to important discoveries with this population.

An important question that is raised by the review of the literature is the idea of pathology in the batterer population. Many studies indicate that batterers are a psychiatric population. This instrument would allow for comparison between a psychiatric population and a batterer population. The results of the present study may give some insight into that question because there is evidence that the MMPI items in this batterer sample are a better assessment measure than the CPI items. However, direct comparisons with a psychiatric population may provide more specific findings.

Besides the research possibilities that arise with the use of the batterer subscale, the clinical implications have considerable merit. For example, the V.A. Medical Centers give the MMPI as part of their standard assessment procedure. The batterer subscale could be used as the MacAndrews alcohol scale and the PTSD scale are used. With these MMPI subscales, elevations above two standard deviations from the mean are considered corroborative evidence for diagnosis. In the same vein, if a patient had scores two standard deviations above the mean on the batterer scale, then the clinician would have a warning that the patient appears to be responding to certain items on the MMPI in a similar fashion to men who batter. The clinician can then use this information to investigate the possibility of partner abuse in the patient's relationships.

In summary, the MMPI batterer subscale has great research applicability as well as clinical relevance. No one has attempted to devise an assessment instrument for this particular population and therefore, the batterer scale is opening up new frontiers for research in the area of partner abuse.

Limitations

The MMPI batterer scale is a pilot assessment instrument. At present it may be used with a high degree of confidence with court referred batterers. If it is used with other batterer populations caution should be used when generalizing the results.

In addition, it must be keep in mind that the sample used in this study, although adequate, was small. Further validation and replication is needed on larger samples.

Although educational level and marital status are believed not to have differential effects between groups, a caveat is needed as part of the limitations of this study. In essence, there may be effects that are subtle but discriminating.

There was some inconsistency in gathering the non-batterer sample. For example, a few were given money for their participation while most were not. Some of the nonbatterers were drawn from the college classroom, albeit a sample of older, blue collar workers. The paid volunteers and the classroom volunteers may not be the most representative sample to match with batterers and therefore, may provide subtle effects in the study.

Summary

The results of this study have provided two sets of items, one from the MMPI and one from the CPI, that can expect to correctly classify court referred batterers nearly 100% of the time. However, the MMPI appears to be a more feasible instrument for batterers. In addition, this pilot batterer assessment instrument provides the groundwork for further research in classifying batterers, nonbatterers, and in correlating batterers with other groups and variables. It also has the potential for being a powerful screening device in diverse clinical settings.

APPENDIX A
CONFLICT RESOLUTION QUESTIONNAIRE

I am _________________, a student at the University of Florida and we are conducting a research project to find out about personality characteristics and how they affect conflict resolution in relationships with wives and girlfriends.

By conflict we mean those times when you and your partner have had different opinions, different viewpoints, or opposite needs in regard to everyday living situations, attitudes and values. When you and your partner have had different opinions, viewpoints or needs, it's natural to want your partner to agree with you and for your partner to try to get you to agree with her. At times, this may result in conflict in the relationship.

Couples have many different ways of dealing with conflict from talking it over, to ignoring the problem, to using a display of physical force. Some couples use all of these methods. I'd like to ask you a few questions about how you resolve the conflicts in your relationship. Would you mind answering a few questions now? Please do not identify yourself.

Using the following scale, please tell us HOW OFTEN IN THE PAST FIVE YEARS YOU HAVE USED THE FOLLOWING METHODS TO RESOLVE CONFLICT.

1	2	3	4	5
Never	Rarely	Sometimes	Occasionally	Frequently

1. Have you asked what she needs_____.
2. Have you thrown something at her______.
3. Have you refused to talk about the disagreement____.
4. Have you listened to her side of the story_____.
5. Have you hit, slapped or punched her______.
6. Have you walked away from the conflict_____.
7. Have you threatened to hit her_______.
8. Have you given in to her_______.
9. Have you shoved or pushed her_____.
10. Have you compromised with her______.

PLEASE TELL US HOW OFTEN IN THE PAST FIVE YEARS YOU HAVE USED THE FOLLOWING METHODS TO RESOLVE CONFLICT.

1	2	3	4	5
Never	Rarely	Sometime	Occasionally	Frequently

11. Have you keep quiet and not said anything to her_____.
12. Have you shouted at her_____.
13. Have you asked her what her opinion was_____.
14. Have you told her what your real feelings were___.

15.Have you kicked her______.

16.Have you "put down" her feelings or ideas_____.

17.Have you told her she was right_____.

18.Have you told her that her opinions were as important as yours_____.

19.Have you threatened her with a weapon_____.

20.Have you withheld love and affection from her_____.

21.Have you restrained her with force______.

Have you ever been charged, convicted or put on deferred prosecution for battery or assualt of your spouse or partner___.

What other methods have you found to resolve conflict____.

____

____

THANK YOU!

APPENDIX B
DEMOGRAPHIC INFORMATION SHEET

Subject Code#__________

Age_________

Education in Years_______

Income__________

Race:

Black______ White_____ Hispanic______ Oriental_____

Other______

Occupation___________________

Marital Status:

Married_____ Single______ Divorced_______

Separated______

How many children do you have_________

Number of Marriages_________

Number of Previous Charges for Spouse/Partner Battery or Assualt________ Number of Previous Convictions or Deferred Prosecutions for Spouse/Partner Battery or Assualt______

Military Service History:

Years of Service_____ Branch_______ Type of Discharge_____

Did your mother, father or step-parent hit or beat you as a child?

Never_____ Sometimes______ Often_______

Did you ever see your father/stepfather physically abuse your mother?

Never_____ Sometimes_______ Often_______

Have you ever been treated for substance abuse_________

Have you ever been arrested for DUI or possession or use of an illegal substance_________

How often do you drink or use drugs?

Never________ Once a week______

2-3 times/week________ Everyday_________

How much do you drink per occasion?

1-2 drinks_______ 3-5 drinks________

5 and above_______

APPENDIX C
INFORMED CONSENT

My name is Anne Wilson and I am a graduate student at the University of Florida in the Department of Psychology. I am conducting a research project to assess the common personality characteristics of men and their relationship to conflict resolution in intimate relationships.

As part of this project, I would like to ask you to complete two personality inventories - The Minnesota Multiphasic Personality Inventory and the California Psychological Inventory and a demographic data form. There are no right or wrong answers and it will require about 2-1/2 to 3 hours of your time. You may withdraw your consent anytime without prejudice. All materials will be kept stricly confidential. Please do not write your name or other personal identifiers on these materials.

Please feel free to ask any questions regarding this project. You may contact us during regular business hours at 392-0600. Your cooperation is very much appreciated.

Principal Investigators:

Harry Grater, Ph.D.
Department of Psychology
University of Florida
Gainesville, FL 32611

Anne T. Wilson, M.S.
Department of Psychology
University of Florida
Gainesville, FL 32611

APPENDIX D
INFORMED CONSENT

My name is Anne Wilson and I am a graduate student at the University of Florida in the Department of Psychology. In order to develp effective treatment programs, I am conducting a research project to assess the common personality characteristics of men who use violence in their relationships.

As part of this project, I would like to ask you to complete two personality inventories - The Minnesota Multiphasic Psychological Inventory and the California Psychological Inventory and a demographic data form. There are no right or wrong answers and it will require about 2 1/2 to 3 hours of your time. You may withdraw your consent anytime without prejudice.

All materials will be kept stricly confidential. Please do not write your name or other personal identifiers on these materials.

Please feel free to ask any questions regarding this project. You may contact us during regular business hours at 392-0600. Your cooperation is very much appreciated.

"I have read and understand the nature of this study described above. I agree to participate and I have received no remuneration for may participation."

Participant___________________

Date_________________________

Principal Investigators:

Harry Grater, Ph.D.
Department of Psychology
University of Florida
Gainesville, FL 32611

Anne T. Wilson, M.S.
Department of Psychology
University of Florida
Gainesville, FL 32611

APPENDIX E
78 MMPI ITEMS* DERIVED BY DISCRIMINANT ANALYSIS

Item

249 I believe there is a devil and a hell in the afterlife.

383 I enjoy the excitement of a crowd.

294 I have never been in trouble with the law.

102 My hardest battles are with myself.

121 I believe I am being plotted against.

241 I dream about things that are best kep to myself.

326 At times I have fits of laughing and crying that I cannot control.

42 My family does not like the work I have chosen.

185 My hearing is apparently as good as that of most people.

260 I was a slower learner in school.

53 A minister can cure disease by praying and putting his hand on your head.

387 I have had no difficulty starting or holding my urine.

32 I find it hard to keep my mind on a task or job.

226 Some of my family have habits that bother and annoy me very much.

280 Most people make friends because friends are likely to be useful to them.

208 I like to flirt.

355 Sometimes I enjoy hurting persons I love.

361 I am inclined to take things hard.

63 I have had no difficulty in starting or holding my bowel movement.

371 I love to go to dances.

380 I try to remember good stories to pass them on to other people.

323 I have had very peculiar and strange experience.

20 My sex life is satisfactory.

39 At times I feel like smashing things.

172 I frequently have to fight against showing that I am bashful.

240 I never worry about my looks.

54 I am liked by most people who know me.

43 My sleep is fitful and disturbed.

248 Sometimes without any reason or even when things are going wrong I feel excitedly happy, "on top of the world."

122 I seem to be about as capable and smart as most others around me.

399 I am apt to pass up something I want to do when others feel that it isn't worth doing.

296 I have periods in which I feel unusually cheerful without any special reason.

206 I am very religious (more than most people).

201 I wish I were not so shy.

259 I have difficulty in starting to do things.

38 During one period when I was a youngster I engaged in petty thievery.

358 Bad words, often terrible words, come into my mind and I cannot get rid of them.

58 Everything is turning out just like the prophets of the Bible said it would.

68 I hardly ever feel pain in the back of the neck.

100 I have met problems so full of possibilities that I have been unable to make up my mind about them.

374 If given the chance I could do some things that would be of great benefit to the world.

327 My mother or father often made me obey even when I thought it was unreasonable.

360 Almost every day something happens to frighten me.

142 I certainly feel useless at times.

103 I have little or no trouble with my muscles twitching or jumping.

319 Most people inwardly dislike putting themselves out to help other people.

379 People generally demand more respect for their own rights than they are willing to allow for others'.

132 I like collecting flowers or growing houseplants.

112 I frequently find it necessary to stand up for what I feel is right.

372 I have sometimes felt that difficulties were piling up so high that I could not overcome them.

110 Someone has it in for me.

317 I am more sensitive than most other people.

362 I am more sensitive than most other people.

128 The sight of blood neither frightens me nor makes me sick.

29 I am bothered by acid stomach several times a week.

353 I have no dread of going into a room by myself where other people have already gathered and are talking.

165 I like to know some important people because it makes me feel important.

134 At times my thoughts have raced ahead faster than I could speak them.

344 Often I cross the street in order not to meet someone I see.

289 I am always disgusted with the law when a criminal is freed through the arguments of a smart lawyer.

269 I can easily make people afraid of me, and sometimes do for the fun of it.

396 In a group of people I would not be embarrassed to be called upon to start a discussion or give an opinion about something I know well.

313 The man who provides temptation by leaving valuable property unprotected is about as much to blame for its theft as the one who stole it.

192 I have had no difficulty in keeping my balance in walking.

31 I have nightmares every few weeks.

77 I enjoy reading love stories.

245 My parents and family find more fault with me than they should.

45 I do not always tell the truth.

90 Once in a while I put off until tomorrow what I might do today.

6 I like to read newspaper articles on crime.

181 When I get bored I like to stir up some excitement.

70 I used to like drop-the-handkerchief.

203 If I were a reporter I would very much like to report news of the theater.

300 There never was a time in my life when I liked to play with dolls.

391 I can remember playing sick to get out of something.

299 I think that I feel more intensely than most people do.

284 I am sure I am being talked about.

397 I like parties and socials.

252 No one cares much what happens to me.

129 Often I can't understand why I have been so cross and grouchy.

204 I would like to be a journalist.

350 I hear strange things when I am alone.

*These items are listed by order of inclusion in the regression model.

APPENDIX F
33 CPI ITEMS FROM DISCRIMINANT ANALYSIS

Item

212 I have never been in trouble with the law.

278 If I get too much change in a store I always give it back.

180 My parents have generally let me make my own decisions.

109 I get pretty discouraged at times.

35 I become quite irritated when I see someone spit on the sidewalk.

41

209 More people are honest chiefly through fear of being caught.

165 I do not mind taking orders or being told what to do.

132 I fall in and out of love rather easily.

453 I work under a great deal of tension.

78 I like to boast about my achievements every now and then.

65 I think I would like the work of a clerk in a large department store.

60 I have often met people who were supposed to be experts who were no better than I.

44 Sometimes I feel like smashing things.

350 A person should not be expected to do anything for his community unless he is paid.

193 I would be ashamed not to use my privilege of voting.

274 I am pretty sure I know how we can settle the international problems we face today.

1 I enjoy social gatherings just to be with people.

228 I like to read about history.

414 I do not read every editorial in the newspaper every day.

96 I take a serious attitude toward ethical and moral Issues.

22 When a person "pads" his income tax report so as to get out of some of his taxes, it is just as bad as stealing money from the government.

55 Some of my family have quick tempers.

341 My people treat me more like a child than a grown up.

222 I would like to belong to a discussion and study club.

171 I think I can do better than most of the present politicians if I were in office.

407 I have had no difficulty in starting or holding my bowel movement.

468 I like to eat my meals quickly and not spend a lot of time at the table visiting and talking.

399 At times I have been so entertained by the cleverness of a crook that I have hoped he would get by with it.
14 I always follow the rule: business before pleasure.
427 I feel that I would be a much better person if I could gain more understanding of myself.
299 I don’t seem to care what happens to me.
420 I used to steal sometimes when I was a youngster.

APPENDIX G
DEMOGRAPHIC DATA AND CODE TRANSFORMATION

Age Level	
18-20	01
21-25	02
26.30	03
31-35	04
36-40	05
41-45	06
46-50	07
51-55	08
above	09

Income Level	
0-10,000	01
10,100-15,000	02
15,100-20,000	03
20,100-30,000	04
30,100-35,000	05
35,000 above	06

Race	
White	01
Black	02
Other	03

Marital Status	
Married	01
Single	02
Divorced	03

Education Level	
11 and below	01
12 years	02
13-16	03
17 above	04

APPENDIX H
MMPI ITEMS SELECTED BY CHI SQUARE ANALYSIS

Item		Direction of Response
1	I like "Mechanics" magazine.	T
5	I am easily awakened by noise.	T
58	Everything is turning out just like the prophets of the Bible said it would.	T
67	I wish I could be as happy as others seem to be.	T
89	It takes a lot of argument to convince people of the truth.	T
94	I do many things which I regret afterward.	T
98	I believe in the second coming of Christ.	T
99	I like to go to parties and other affairs where there is lots of fun.	T
01	I believe women ought to have as much sexual freedom as men.	T
106	Much of the time I feel as if I have done something wrong or evil.	F
137	I believe that my home life is as pleasant as that of most people I know.	T
173	I liked school.	T

Item		Direction of Response
223	I very much like hunting.	T
249	I believe there is a devil and a hell in afterlife.	T
255	Sometimes at elections I vote for men about whom I know very little.	T
258	I believe there is a God.	T
262	It does not bother me that I am not better looking.	T
284	I am sure I am being talked about.	T
294	I have never been in trouble with the law.	F
320	Many of my dreams are about sex matters.	F
365	I feel uneasy indoors.	F
378	I am embarrassed by dirty stories.	F
383	I enjoy the excitement of a crowd.	T
396	In a group of people I would not be embarrassed to be called upon to start adiscussion or give an opinion about something I know well.	T
398	I shrink from facing a crisis or difficulty.	F

APPENDIX I
CPI ITEMS SELECTED BY CHI SQUARE ANALYSIS

Item		Direction of Response
34	There are a few people who just cannot be trusted.	T
49	When someone does me a wrong I feel I should pay him back if I can, just for the principle of the thing.	F
165	I do not mind taking orders or being told what to do.	T
210	I very much like hunting.	T
212	I have never been in trouble with the law.	F
250	I must admit I find it very hard to work under strict rules and regulations.	
278	If I get too much change in a store, I always give it back.	T
334	I get nervous when I have to ask someone for a job.	F
344	I am made nervous by certain animals.	F

APPENDIX J
COMMON ITEMS FROM THE CHI SQUARE ANALYSIS AND THE DISCRIMINANT ANALYSIS

MMPI	CPI
249	212
383	278
294	165
284	
396	
58	

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BIOGRAPHICAL SKETCH

Anne T. Wilson (10-27-42) was born in Philadelphia, Pennsylvania. She graduated in 1978 from the University of South Florida with a B.A. in psychology. In 1982 she entered the doctoral program in counseling psychology at the University of Florida and received her M.S. in 1984. After completing an internship at the East Orange V.A. Medical Center in East Orange, New Jersey, she received her Ph.D. in December, 1988. She is currently on the staff of the Pittsburgh V.A. Medical Center in Pittsburgh, Pennsylvania.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Harry Grater

Harry A. Grater, Chairman
Professor of Psychology

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Franz R. Epting, Ph.D.
Professor of Psychology

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Carolyn M. Tucker, Ph.D.
Professor of Psychology

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Mary A. Fukuyama

Mary A. Fukuyama, Ph.D.
Assistant Professor of
Psychology

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Robert C. Ziller
Professor of Psychology

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Haywood C. Smith jr
Haywood C. Smith, Ph.D.
Associate Professor of
Astronomy

This dissertation was submitted to the Graduate Faculty of the Department of Psychology in the College of Liberal Arts and Sciences and to the Graduate School and was accepted as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

December 1988

Dean, Graduate School